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## THE ACTION OF COLLOIDAL PARIS GREEN ON THE LARVÆ OF *CULEX APICALIS*<sup>1</sup>

### A Preliminary Report

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The observations and experiments upon the toxicity of four different colloidal preparations of Paris green to culicine larvæ reported upon in this paper were made during the summer and fall of 1931 by Pierce D. Wood, under the auspices of the Virginia State Department of Health, Division of Malaria Control, Dr. H. G. Grant, director. The solutions of colloidal Paris green herein referred to as Nos. 3, 18, and 19 were prepared by Barclay M. Newman, with the assistance of Dr. Arthur W. Thomas, professor of chemistry, Columbia University. Preparation No. 125 was made in the laboratory of Brooklyn Academy, New York, by Barclay M. Newman.

Paris green dust, mixed with various diluents, has been used since 1921 as a larvicide against anophelines, following Dr. M. A. Barber's (1) pioneer work, and has proved an extremely effective agent for this purpose. In fact, so excellently has it worked in killing anopheline larvæ that numerous attempts have been made to extend its use to the killing of culcines. Griffiths (2) proved that it was toxic to the latter if it could be made to reach them. It was hoped that colloidal Paris green might give promising results, since there was little doubt that the poison in this form, homogeneously distributed through the water, would reach them. This hope was based upon the knowledge of the manner in which larvæ feed, as demonstrated by Matheson (3), who gives good evidence that they make no selection of their food, sweeping it, admixed with both débris and some of the medium in which they live, into their alimentary tracts. That colloidal Paris green is an efficient larvicide for subsurface-feeding forms, at least in the case of *Culex apicalis* under laboratory conditions, is shown in this preliminary report.

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<sup>1</sup> These experiments were made possible through the efforts of Col. C. R. Keiley, of the Virginia State Department of Health, who fostered the idea behind them and placed it upon a practical basis.

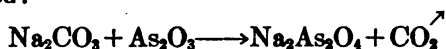
## 1. PREPARATION OF COLLOIDAL PARIS GREEN

Since there is nothing in the literature concerning colloidal Paris green, so far as could be ascertained by an examination of "Chemical Abstracts" and other sources, it was necessary to devise methods of preparation.

## PREPARATION OF SOLUTION NO. 3

With the assistance of Dr. Arthur W. Thomas a first preparation of colloidal Paris green was made, using a modification of Galloway's process for commercial Paris green dust. Copper aceto-arsenite (Paris green) was precipitated in the presence of gum arabic to form a protective colloid, as follows:

A. To 16 gm of anhydrous  $\text{Na}_2\text{CO}_3$  dissolved in 650 c c of water and brought to incipient ebullition, 10 gm of  $\text{As}_2\text{O}_3$  are added in small portions. The resulting solution is boiled for two hours. Sodium arsenite is formed:



B. To 8.5 gm  $\text{CuCl}_2$  dissolved in 350 c c of water, a solution of 5 gm of gum arabic dissolved in 300 c c of water are added. This  $\text{CuCl}_2$ -gum arabic solution is acidified with the addition of 5 c c of glacial acetic acid.

C. The cooled sodium arsenite solution is added, drop by drop, with violent agitation by means of a mechanical mixer, to the acidified  $\text{CuCl}_2$ -gum arabic solution. Paris green is precipitated in fine particles.

A fairly good colloidal Paris green solution is obtained, but the method leaves much to be desired. The greater part of the Paris green obtained quickly settles to the bottom. The final concentration contains but 0.5 gm, approximately, of Paris green per 100 c c of solution. By "final concentration" is meant the more or less stable colloid left after the comparatively rapid precipitation, extending over several hours, has ceased. Following the cessation of the rapid settlement, very slow settling proceeds, but at so exceedingly slow a rate as to cause only a scarcely appreciable change in the preparation after two months. The product is a protective colloid, and thus not only expensive as far as larvicides are concerned, but also subject to precipitation by dissolved salts. Another disadvantage of this preparation is that, unlike the better commercial brands of Paris green dust, the Paris green which it contains is not of known definite chemical constitution, or of tested general toxicity, and its alterations upon long standing as well as the variability of the product obtained by this method are unknown. Further, the method is not efficient, as much waste results. All in all, however, solution No. 3 should be regarded as a reasonable start toward a more nearly perfect product.

## PREPARATION OF SOLUTION NO. 18

One hundred gm of a commercial brand of Paris green dust, mixed with approximately 300 c c of a water-gelatin solution (300 c c of water + 25 gm gelatin) were run four times through a small colloid mill. The product is at best unsatisfactory, since after a few hours over 90 per cent of the Paris green has settled out. After a few days the gelatin brings about gelation; and in order to be sure of a solution of a fairly stable nature, the gel has to be dissolved in approximately twenty times its volume of water, and more settling of the larger particles still in suspension, because of the gelatin, allowed to take place. In usable form the No. 18 preparation has but 0.25 gm, approximately, of Paris green per 100 c c of solution.

## PREPARATION OF SOLUTION NO. 19

Solution No. 19 was prepared precisely as No. 18, excepting that 25 gm of soap flakes (Ivory) were used instead of 25 gm of gelatin to protect the colloid. In order to render the product fit for use, dilution has to be made in this case also, as in the instance of No. 18. The colloid, in usable form, has but 0.25 gm, approximately, of Paris green per 100 c c of solution.

Aside from the high cost and short life of colloid mills when used to grind such an abrasive substance as Paris green dust, the unsatisfactory product, the inconvenience of the method, and the cost, probably obviate the use of this method.

## PREPARATION OF SOLUTION NO. 125

The methods of colloid preparation applicable to Paris green are (a) precipitation by synthesis, (b) mechanical dispersion, (c) peptization, (d) replacement of solvent. Methods (a) and (b) gave only partially successful results. Methods (c) and (d) were next attempted.

In this connection it was noted that peptization is sometimes brought about by the agency of ammonium hydroxide. Paris green is soluble in ammonium hydroxide. Upon experimentation it was found that Paris green dissolved in concentrated  $\text{NH}_4\text{OH}$  yielded a colloidal solution when stirred into a large volume of water. (With much Paris green- $\text{NH}_4\text{OH}$  solution and little water, complete settlement takes place immediately.) This can be called either peptization or replacement of solvent, according to the chemical viewpoint adopted.

Solution No. 125, then, consists of commercial Paris green dissolved in concentrated  $\text{NH}_4\text{OH}$  to form a rather clear, dark blue solution, containing 20 gm of Paris green to each 100 c c of solution. The maximum solubility of the brand used was about 50 gm to each 100 c c of concentrated  $\text{NH}_4\text{OH}$ .

This method is a simple means of having at hand a source of colloidal Paris green apparently constant in strength and invariable in chemical nature. Five drops of the saturated solution stirred into a liter of water yields a colloidal Paris green preparation with a quite noticeable green color. (The strength of such a suspension is about 0.125 gm of Paris green to a liter of water.) The Paris green settles out rather slowly; it takes more than a week for the greater part of the Paris green to settle out of such a concentration of the colloid. With more dilute solutions of the colloid, the settling is much slower.

Dissolved salts such as would be met with in nature do not seem to affect the rate of settling appreciably.

Gum, gelatin, sugars, soaps, albumin, and various ions (except the  $\text{NH}_4$  ion) either cause more rapid settlement or do not affect the rate of precipitation to the bottom. Acids and chlorine water will redissolve the precipitate and yield preparations rather stable in nature. Neutralization will then cause reprecipitation of the Paris green.

Laboratory results with No. 125 as a larvicide for the subsurface feeding larvæ of *Culex apicalis* are promising.

## II. THE TOXICITY OF COLLOIDAL PARIS GREEN TO CULEX APICALIS

The experiments made to determine the toxicity of the colloidal preparations Nos. 3, 18, 19, and 125 were carried out during a period extending from July 28 to October 24, 1931, at Richmond, Va.

Larvæ of *Culex apicalis* were chosen as the subject of these experiments, and were obtained from, first, a pond, and later a spring, both near Richmond.

### METHOD

The larvæ were in each case placed in half-gallon glass jars containing very nearly 2,000 c c of water in the case of the controls, and of water + colloid in the case of the Paris green tests. Each jar was covered by resting the larger end of a glass lantern chimney over the neck of the jar, the smaller end being covered with several thicknesses of cotton gauze held in place by rubber bands.

Pond or spring water from the breeding places of the larvæ was used in preparing the controls as well as the dilutions of the colloids. The larvæ were transferred from the partially full half-gallon jars, in which they were transported to the laboratory, to the controls and the suspensions by means of a medicine dropper. Therefore a small quantity of water was added with the larvæ, introducing a slight error of dilution.

In the case of solution No. 3, in the beginning the suspensions in their different strengths were made up by first mixing equal quantities of the colloid and water, and then from this mixture a one-to-one

solution, preparing the further dilutions by adding the requisite amounts of water. When the quantities of water necessary to this plan became too great for simple manipulation, the method was altered; in each instance definite amounts of No. 3 were added to the 2 liters of water in the containers. Thus, the preparations made from No. 3 were all volume-volume dilutions.

In the case of Nos. 18, 19, and 125, the dilutions were made on a weight-weight basis. The proper quantity of the original colloid preparation, so calculated as to contain the required weight of Paris green, was added to the 2 liters of water.

In some cases the dilutions were not made fresh for each experiment. The finding that larvæ were killed under such conditions, after the diluted colloid had been left standing for some time, and slowly settling, is a favorable one. Exact determinations along this line have not been made, as such a series of experiments is perhaps best carried out under field conditions.

Time observations were made upon the length of time elapsed from the time when the larvæ were first placed in the suspensions until the time when all the larvæ were dead. This is referred to as the killing time. Evidences of death were taken to be (1) larvæ motionless upon the bottom, (2) larvæ showing no reaction to stimulation.

#### RESULTS OF TOXICITY DETERMINATIONS

The experiments which were most interesting were, first, those carried out with solution No. 3 in dilutions of 1 to 1,000,000, 1 to 2,500,000; second, those carried out with solution No. 18 in dilutions of 1 to 500,000, 1 to 1,000,000, 1 to 2,500,000, and 1 to 5,000,000; third, those carried out with No. 19 in dilutions of 1 to 500,000, 1 to 1,000,000, 1 to 2,500,000, and 1 to 5,000,000; and lastly, those made with solution No. 125 in dilutions of 1 to 5,000,000.

In the experiments carried out with solution No. 3 in dilutions of 1 to 1,000,000—that is, experiments Nos. 23, 29, 36, 43, 51, 59, and 67—the killing time varied from a minimum of 23 hours in experiment No. 29 to 3 days in experiment No. 43. Also, in the experiments carried out with solution No. 3 in dilutions of 1 to 2,500,000—that is, experiments Nos. 44, 52, 60, 68, and 74—the killing time varied from one day in experiment No. 74 to 5 days in experiment No. 44. In the experiments carried out with solution No. 3 in dilutions of 1 to 5,000,000 there was a greater difference in the time which elapsed until all the larvæ had died. The longest time was in experiment No. 70, in which 14 days elapsed before all the larvæ were killed; whereas in experiment No. 73, with the same dilution, all the larvæ were dead within one day.

The difference in killing time in solutions Nos. 18, 19, and 125 are not so great as in solution No. 3. With solution No. 18 in dilution of

1 to 500,000 the shortest time in which all the larvæ died was 17 hours in experiment No. 89, whereas the longest time with this same strength of solution was in experiment No. 103. With solution No. 18 in dilutions of 1 to 500,000, the killing time varied from 2 days in experiment No. 101 to over 6 days in experiment No. 106.

Using solution No. 19 in dilutions of 1 to 2,500,000 the shortest killing time was 17 hours in experiment No. 114 and the longest time 2 days and 4 hours in experiment No. 132. Using solution No. 19 in dilutions of 1 to 5,000,000 the shortest killing time was 1 day and 3 hours in experiment No. 123, and the longest 6 days and 7 hours in experiment No. 134.

Solution No. 125 worked much better as a larvicide than any other of the preparations. There were eight experiments carried out with the same dilution—that is, 1 to 5,000,000. The killing time varied from 19 hours in experiment No. 148 to 3 days in experiment No. 141.

The difference in killing time may have been due to some or all of the following factors: (1) The varying stages of development of the larvæ; (2) the previous experiences of the larvæ with respect to food, light, temperature, water conditions, parasites, etc.; (3) the natural differences between various batches of larvæ; (4) varying amounts of food present in the medium in which they were placed; (5) the use of the same solution more than once.

Attention should be called to the fact that in all of the controls not as many pupæ developed as one would expect. This was probably due to lack of proper food for the larvæ and insufficient sunlight.

#### SUMMARY

1. Colloidal Paris green is toxic, under laboratory conditions, to the larvæ of *Culex apicalis*, in as small concentrations as 1 part by weight of Paris green to 5,000,000 parts by weight of water.

2. Colloidal preparations made from a solution of Paris green in concentrated  $\text{NH}_4\text{OH}$  gave the best results of any of the preparations used, killing all larvæ placed in 1 to 5,000,000 dilutions within periods ranging from 19 hours to 3 days.

3. It is possible that colloidal Paris green can be developed as an effective and comparatively inexpensive mosquito larvicide.

(Further experiments to determine the action of colloidal Paris green as a larvicide are in progress. Field work will be done in which the action of the colloid on the top-feeding minnows and small fish will be noted.)

#### REFERENCES

- (1) Barber, M. A.: Arsenic as a larvicide for anopheline larvæ. Pub. Health Rep., vol. 36, no. 49 (Dec. 9, 1921), pp. 3027-3034.

(2) Griffiths, T. H. D.: Moist sand method of applying Paris green for destruction of subsurface-feeding larvæ. Pub. Health Rep., vol. 42, no. 44 (Nov. 4, 1927), pp. 2701-2705.

(3) Matheson, Robert: Aquatic plants as factors in mosquito control and the problem of the food of mosquito larvæ. Proc. of the 17th Ann. Meeting of the New Jersey Mosquito Extermination Association, 1930.

(Tables with experimental data follow.)

DATA ON EXPERIMENT USING SOLUTION NO. 3

| Date     | Number of experiment | Number of adults hatched | Number of pupæ | Solution No. and dilution               | Time till death                     | Remarks   |
|----------|----------------------|--------------------------|----------------|---|-------------------------------------|---|
| July 28  | 1                    | 0                        | 1              | No. 3, conc.....                        | 25 minutes to 1 hour and 6 minutes. |   |
| 29       | 2                    | 0                        | 0              | No. 3 (1-1 dilution).....               | 35 minutes.....                     |   |
| 29       | 3                    | 0                        | 0              | No. 3 (1-4).....                        | 33 minutes.....                     |   |
| 29       | 4                    | 0                        | 0              | No. 3 (1-8).....                        | 42 minutes.....                     |   |
| 30       | 5                    | 0                        | 0              | No. 3 (1-16).....                       | 1 hour.....                         |   |
| 30       | 6                    | 0                        | 0              | No. 3 (1-32).....                       | 1 hour and 30 minutes.....          |   |
| Aug. 31  | 7                    | 0                        | 0              | No. 3 (1-64).....                       | 2 hours and 2 minutes.....          |   |
| 3        | 8                    | 3                        | 0              | No. 3 (1-128).....                      | 2 hours and 32 minutes.....         |   |
| 3        | 9                    | 0                        | 0              | No. 3 (1-256).....                      | 4 hours and 5 minutes.....          |   |
| 3        | 10                   | 0                        | 0              | No. 3 (1-512).....                      | 4 hours and 30 minutes.....         |   |
| 4        | 11                   | 0                        | 0              | No. 3 (1-1,034).....                    | 5 hours and 5 minutes.....          |   |
| 5        | 12                   | 0                        | 0              | No. 3 (1-2,068).....                    | 5 hours and 30 minutes.....         |   |
| 5        | 13                   | 0                        | 0              | No. 3 (1-4,136).....                    | 6 hours and 24 minutes.....         |   |
| 5        | 14                   | 0                        | 3              | No. 3 (1-8,272).....                    | 10 hours.....                       |   |
| 5        | 15                   | 1                        | 3              | No. 3 (1-82,720).....                   | 24 hours.....                       | Pupæ died in 36 hours.<br>3 pupæ died in about 3 days. Adult died several hours after hatching out. |
| 5        | 16                   | 0                        | 2              | No. 3 (1-165,440).....                  | 9 days.....                         | Pupæ died in 11 days; 1 larvæ died in 27 days.  |
| 7        | 17                   | 0                        | 0              | No. 3 (1-1,654,400).....                | 32 days (?).....                    |   |
| 10       | 18                   | 0                        | 0              | No. 3 (1-1,000,000).....                | 13 days and 2 hours.....            |   |
| 27       | 19                   | 0                        | 0              | No. 3 (1-50,000).....                   | 10 hours.....                       |   |
| 27       | 20                   | 0                        | 1              | No. 3 (1-100,000).....                  | 20 hours and 37 minutes.....        |   |
| 27       | 21                   | 1                        | 0              | No. 3 (1-250,000).....                  | 1 day and 7 hours.....              | Pupa died in short time.<br>Hatched out but died in few minutes.                                    |
| 27       | 22                   | 1                        | 0              | No. 3 (1-500,000).....                  | 2 days and 8 hours.....             | Hatched Aug. 28 and died in several hours.  |
| 27       | 23                   | 1                        | 0              | No. 3 (1-1,000,000).....                | 2 days and 18 hours.....            | Hatched out but died Aug. 31.   |
| Sept. 27 | 24                   | 0                        | 0              | No. 3 (1-5,000,000).....                | 3 days and 21 hours.....            |   |
| 8        | 25                   | 0                        | 0              | No. 3 (1-50,000).....                   | 23 hours.....                       |   |
| 8        | 26                   | 0                        | 0              | No. 3 (1-100,000).....                  | do.....                             |   |
| 8        | 27                   | 0                        | 0              | No. 3 (1-250,000).....                  | do.....                             |   |
| 8        | 28                   | 0                        | 0              | No. 3 (1-500,000).....                  | do.....                             |   |
| 8        | 29                   | 0                        | 0              | No. 3 (1-1,000,000).....                | do.....                             |   |
| 8        | 30                   | 0                        | 0              | No. 3 (1-5,000,000).....                | 48 hours.....                       |   |
| 8        | 31                   | 0                        | 0              | Control for 25, 26, 27, 28, 29, 30.     |                                     | All alive at end of experiment.   |
| 9        | 32                   | 0                        | 0              | No. 3 (1-50,000).....                   | 24 hours.....                       |   |
| 9        | 33                   | 0                        | 0              | No. 3 (1-100,000).....                  | do.....                             |   |
| 9        | 34                   | 0                        | 0              | No. 3 (1-250,000).....                  | 23 hours and 56 minutes.....        |   |
| 9        | 35                   | 0                        | 0              | No. 3 (1-500,000).....                  | 23 hours and 54 minutes.....        |   |
| 9        | 36                   | 0                        | 0              | No. 3 1-1,000,000.....                  | 25 hours and 5 minutes.....         |   |
| 9        | 37                   | 0                        | 0              | No. 3 1-5,000,000.....                  | 44 hours and 15 minutes.....        |   |
| 9        | 38                   | 0                        | 0              | Control for 32, 33, 34, 35, 36, 37.     |                                     | Do.   |
| 11       | 39                   | 0                        | 0              | No. 3 (1-50,000).....                   | 22 hours.....                       |   |
| 11       | 40                   | 0                        | 0              | No. 3 (1-100,000).....                  | do.....                             |   |
| 11       | 41                   | 0                        | 0              | No. 3 (1-250,000).....                  | do.....                             |   |
| 11       | 42                   | 0                        | 0              | No. 3 (1 500,000).....                  | 22 hours and 30 minutes.....        |   |
| 11       | 43                   | 0                        | 0              | No. 3 (1-1,000,000).....                | 3 days.....                         |   |
| 11       | 44                   | 0                        | 0              | No. 3 (1-2,500,000).....                | 5 days and 22 hours.....            |   |
| 11       | 45                   | 0                        | 0              | No. 3 (1-5,000,000).....                | do.....                             |   |
| 11       | 46                   | 0                        | 0              | Control for 39, 40, 41, 42, 43, 44, 45. |                                     | 8 dead in 5 days and 22 hours.  |
| 23       | 47                   | 0                        | 0              | No. 3 (1-50,000).....                   | 33 hours.....                       |   |
| 23       | 48                   | 0                        | 0              | No. 3 (1-100,000).....                  | do.....                             |   |
| 23       | 49                   | 0                        | 0              | No. 3 (1-250,000).....                  | 32 hours and 58 minutes.....        |   |
| 23       | 50                   | 0                        | 0              | No. 3 (1-500,000).....                  | 32 hours and 57 minutes.....        |   |
| 23       | 51                   | 0                        | 0              | No. 3 (1-1,000,000).....                | 35 hours.....                       |   |
| 23       | 52                   | 0                        | 0              | No. 3 (1-2,500,000).....                | 32 hours and 54 minutes.....        |   |

1 Control.

## DATA ON EXPERIMENT USING SOLUTION NO. 3—Continued

| Date     | Number of experiment | Number of adults hatched | Number of pupae | Solution No. and dilution                       | Time till death                 | Remarks  |
|----------|----------------------|--------------------------|-----------------|---|---------------------------------|--|
| Sept. 23 | 53                   | 0                        | 0               | No. 3 (1-5,000,000)                             | 40 hours                        | All living (no pupae).   |
| 23       | 54                   | 0                        | 0               | Control for 47, 48, 49, 50, 51, 52, 53.         |                                 |  |
| 27       | 55                   | 0                        | 0               | No. 3 (1-50,000)                                | 27 hours and 45 minutes         | 14 larvæ and 2 pupæ living; 6 dead.  |
| 27       | 56                   | 0                        | 0               | No. 3 (1-100,000)                               | do.                             |  |
| 27       | 57                   | 0                        | 0               | No. 3 (1-250,000)                               | 27 hours and 50 minutes         |  |
| 27       | 58                   | 0                        | 0               | No. 3 (1-500,000)                               | do.                             |  |
| 27       | 59                   | 0                        | 0               | No. 3 (1-1,000,000)                             | do.                             |  |
| 27       | 60                   | 0                        | 0               | No. 3 (1-2,500,000)                             | do.                             |  |
| 27       | 61                   | 0                        | 0               | No. 3 (1-5,000,000)                             | 3 days                          |  |
| 27       | 62                   | 0                        | 0               | Control for 55, 56, 57, 58, 59, 60, 61, 62.     |                                 |  |
| 30       | 63                   | 0                        | 0               | No. 3 (1-50,000)                                | 32 hours and 5 minutes          |  |
| 30       | 64                   | 0                        | 0               | No. 3 (1-100,000)                               | 32 hours and 14 minutes         |  |
| 30       | 65                   | 0                        | 0               | No. 3 (1-250,000)                               | 32 hours and 17 minutes         |  |
| 30       | 66                   | 0                        | 0               | No. 3 (1-500,000)                               | 32 hours and 14 minutes         |  |
| 30       | 67                   | 0                        | 0               | No. 3 (1-1,000,000)                             | 32 hours and 13 minutes         |  |
| 30       | 68                   | 0                        | 0               | No. 3 (1-2,500,000)                             | 32 hours and 8 minutes          |  |
| 30       | 69                   | 0                        | 0               | No. 3 (1-5,000,000)                             | 9 days, 4 hours, and 41 minutes |  |
| 30       | 70                   | 0                        | 0               | No. 3 (1-5,000,000)                             | 14 days                         | All alive Oct. 2; all hatched out Oct. 5.<br>Used 50 larvæ.  |
| 30       | 71                   | 0                        | 0               | No. 3 (1-5,000,000)                             | 13 days                         |  |
| 30       | 72                   | 0                        | 0               | Control for 63, 64, 65, 66, 67, 68, 69, 70, 71. |                                 |  |
| 30       | 73                   | 0                        | 0               | No. 3 (1-2,500,000)                             | 33 hours                        |  |
| Oct. 7   | 74                   | 0                        | 0               | No. 3 (1-5,000,000)                             | 34 hours                        | 35 living, 8 dead (3 adults); used 50 larvæ.<br>Used 50 larvæ.<br>35 alive. Used 50 larvæ.<br>Used 25 larvæ.<br>2 dead. Used 25 larvæ. |
| 7        | 75                   | 0                        | 0               | Control for 73 and 74.                          |                                 |  |
| 14       | 76                   | 0                        | 0               | No. 3 (1-5,000,000)                             | 3 days                          |  |
| 14       | 77                   | 15                       | 0               | Control for 76                                  |                                 |  |
| 21       | 78                   | 0                        | 0               | No. 3 (1-5,000,000)                             | 2 days                          |  |
| 21       | 79                   | 0                        | 0               | Control for 78                                  |                                 |  |

## DATA ON EXPERIMENT USING ARSENOUS SULPHIDE

|         |    |   |   |                                 |         |                                     |
|---------|----|---|---|---------------------------------|---------|-------------------------------------|
| Aug. 27 | 80 | 0 | 0 | Arsenous sulphide(?) (1-50,000) | 28 days | Adult hatched out in several hours. |
| 27      | 81 | 0 | 0 | Arsenous sulphide (1-100,000)   | 26 days |                                     |
| 27      | 82 | 0 | 0 | Arsenous sulphide (1-250,000)   | 25 days |                                     |
| 27      | 83 | 0 | 0 | Arsenous sulphide (1-500,000)   | 23 days |                                     |
| 27      | 84 | 1 | 0 | Arsenous sulphide (1-1,000,000) | 32 days |                                     |

## DATA ON EXPERIMENT USING SOLUTION NO. 18

|          |     |   |   |                                   |                         |  |
|----------|-----|---|---|-----------------------------------|-------------------------|--|
| Sept. 11 | 85  | 0 | 0 | No. 18 (1-500,000)                | 23 hours                | Used 20 larvæ.                               |
| 11       | 86  | 0 | 0 | No. 18 (1-1,000,000)              | 23 hours and 10 minutes | Do.  |
| 11       | 87  | 0 | 0 | No. 18 (1-2,500,000)              | do.                     | Do.  |
| 11       | 88  | 0 | 0 | Control for 85, 86, 87.           |                         | 7 dead and 13 alive; used 20 larvæ.          |
| 18       | 89  | 0 | 0 | No. 18 (1-500,000)                | 17 hours                | Used 20 larvæ.                               |
| 18       | 90  | 0 | 0 | No. 18 (1-1,000,000)              | do.                     | Do.  |
| 18       | 91  | 0 | 0 | No. 18 (1-2,500,000)              | 3 days                  | Do.  |
| 18       | 92  | 0 | 0 | Control for 89, 90, 91.           |                         | 3 dead and 17 alive. Used 20 larvæ.          |
| 23       | 93  | 0 | 0 | No. 18 (1-500,000)                | 19 hours and 55 minutes | Used 20 larvæ.                               |
| 23       | 94  | 0 | 0 | No. 18 (1-1,000,000)              | 19 hours and 56 minutes | Do.  |
| 23       | 95  | 0 | 0 | No. 18 (1-2,500,000)              | 31 hours and 49 minutes | Do.  |
| 23       | 96  | 0 | 0 | Control for 93, 94, 95.           |                         | All alive. Used 20 larvæ.                    |
| 30       | 97  | 0 | 0 | No. 18 (1-500,000)                | 32 hours and 13 minutes | Used 20 larvæ.                               |
| 30       | 98  | 0 | 0 | No. 18 (1-1,000,000)              | 32 hours and 16 minutes | Do.  |
| 30       | 99  | 0 | 0 | No. 18 (1-2,500,000)              | do.                     | Do.  |
| 30       | 100 | 0 | 0 | No. 18 (1-5,000,000)              |                         | 11 still living after 2 days. Used 20 larvæ. |
| 30       | 101 | 0 | 0 | No. 18 (1-5,000,000)              | 2 days                  | Used 20 larvæ.                               |
| 30       | 102 | 0 | 0 | Control for 97, 98, 99, 100, 101. |                         | All alive. Used 20 larvæ.                    |

<sup>1</sup> Control.<sup>2</sup> Check on No. 69.<sup>3</sup> Check on No. 70.<sup>4</sup> Check on No. 100.



## DATA ON EXPERIMENT USING SOLUTION NO. 18—Continued

| Date   | Number of experiment | Number of adults hatched | Number of pupae | Solution No. and dilution | Time till death                  | Remarks  |
|--------|----------------------|--------------------------|-----------------|---------------------------|----------------------------------|--|
| Oct. 7 | 103                  | 0                        | 0               | No. 18 (1-500,000)...     | 52 hours and 20 minutes....      | Used 50 larvæ.                                   |
| 7      | 104                  | 0                        | 0               | Control for 103.....      | -----                            | 35 living Oct. 11. Used 50 larvæ.                |
| 11     | 105                  | 0                        | 0               | No. 18 (1-5,000,000)...   | 48 hours.....                    | Used 50 larvæ.                                   |
| 14     | 106                  | 0                        | 0               | No. 18 (1-5,000,000)...   | 6 days, 7 hours, and 40 minutes. | Do.  |
| 14     | 107                  | 0                        | 0               | Control for 105 and 106.  | -----                            | 15 dead; rest alive after 6 days. Used 50 larvæ. |

## DATA ON EXPERIMENT USING SOLUTION NO. 19

|          |     |   |   |                                     |                                |   |
|----------|-----|---|---|-------------------------------------|--------------------------------|---|
| Sept. 11 | 108 | 0 | 0 | No. 19 (1-500,000)...               | 23 hours and 30 minutes....    | Used 20 larvæ.                          |
| 11       | 109 | 0 | 0 | No. 19 (1-1,000,000)...             | 22 hours and 25 minutes....    | Do.                                     |
| 11       | 110 | 0 | 0 | No. 19 (1-2,500,000)...             | 22 hours and 20 minutes....    | Do.                                     |
| 11       | 111 | 0 | 0 | Control for 108, 109, 110.          | -----                          | 7 dead and 13 alive. Used 20 larvæ.     |
| 18       | 112 | 0 | 0 | No. 19 (1-500,000)...               | 17 hours.....                  | Used 20 larvæ.                          |
| 18       | 113 | 0 | 0 | No. 19 (1-1,000,000)...             | do.....                        | Do.                                     |
| 18       | 114 | 0 | 0 | No. 19 (1-2,500,000)...             | do.....                        | Do.                                     |
| 18       | 115 | 0 | 0 | Control for 112, 113, 114.          | -----                          | 5 dead in 17 hours. Used 20 larvæ.      |
| 23       | 116 | 0 | 0 | No. 19 (1-500,000)...               | 20 hours.....                  | Used 20 larvæ.                          |
| 23       | 117 | 0 | 0 | No. 19 (1-1,000,000)...             | do.....                        | Do.                                     |
| 23       | 118 | 0 | 0 | No. 19 (1-2,500,000)...             | 31 hours and 42 minutes....    | Do.                                     |
| 23       | 119 | 0 | 0 | Control for 116, 117, 118.          | -----                          | All alive. Used 20 larvæ.               |
| 27       | 120 | 0 | 0 | No. 19 (1-500,000)...               | 27 hours and 28 minutes....    | Used 20 larvæ.                          |
| 27       | 121 | 0 | 0 | No. 19 (1-1,000,000)...             | 27 hours and 25 minutes....    | Do.                                     |
| 27       | 122 | 0 | 0 | No. 19 (1-2,500,000)...             | do.....                        | Do.                                     |
| 27       | 123 | 0 | 0 | No. 19 (1-5,000,000)...             | do.....                        | Do.                                     |
| 27       | 124 | 0 | 0 | Control for 120, 121, 122, and 123. | -----                          | 17 alive Sept. 28. Used 20 larvæ.       |
| 30       | 125 | 0 | 0 | No. 19 (1-500,000)...               | 32 hours and 55 minutes....    | Used 20 larvæ.                          |
| 30       | 126 | 0 | 0 | No. 19 (1-1,000,000)...             | 32 hours and 57 minutes....    | Do.                                     |
| 30       | 127 | 0 | 0 | No. 19 (1-2,500,000)...             | 33 hours.....                  | Do.                                     |
| 30       | 128 | 0 | 0 | No. 19 (1-5,000,000)...             | do.....                        | Do.                                     |
| 30       | 129 | 0 | 0 | Control for 125, 126, 127, 128.     | -----                          | All alive. Used 20 larvæ.               |
| Oct. 7   | 130 | 0 | 0 | No. 19 (1-5,000,000)...             | 51 hours and 50 minutes....    | Used 50 larvæ.                          |
| 7        | 131 | 0 | 0 | No. 19 (1-5,000,000)...             | 27 hours and 45 minutes....    | Do.                                     |
| 7        | 132 | 0 | 0 | No. 19 (1-2,500,000)...             | 33 hours.....                  | Do.                                     |
| 7        | 133 | 0 | 0 | Control for 130, 131, 132.          | -----                          | 35 living after 4 days. Used 50 larvæ.  |
| 14       | 134 | 0 | 0 | No. 19 (1-5,000,000)...             | 151 hours and 45 minutes (?).. | Used 50 larvæ.                          |
| 14       | 135 | 0 | 0 | Control for 134.....                | -----                          | 35 alive on Oct. 20 (?). Used 50 larvæ. |
| 21       | 136 | 0 | 0 | No. 19 (1-5,000,000)...             | 31 hours and 40 minutes....    | Used 25 larvæ.                          |
| 22       | 137 | 0 | 0 | No. 19 (1-5,000,000)...             | 30 hours and 10 minutes....    | Do.                                     |
| 21       | 138 | 0 | 0 | Control for 136 and 137.            | -----                          | All alive on Oct. 24. Used 25 larvæ.    |

## DATA ON EXPERIMENT USING SOLUTION NO. 125

|        |     |   |   |                                 |                             |   |
|--------|-----|---|---|---------------------------------|-----------------------------|---|
| Oct. 7 | 139 | 0 | 0 | No. 125 (1-5,000,000)...        | 38 hours and 25 minutes.... | Used 50 larvæ.                            |
| 9      | 140 | 0 | 0 | No. 125 (1-5,000,000)...        | 26 hours and 30 minutes.... | Used 20 larvæ.                            |
| 11     | 141 | 0 | 0 | No. 125 (1-5,000,000)...        | 3 days.....                 | Used 25 larvæ.                            |
| 11     | 142 | 0 | 0 | No. 125 (1-5,000,000)...        | 20 hours and 15 minutes.... | Do.                                       |
| 7      | 143 | 0 | 0 | Control for 139, 140, 141, 142. | -----                       | 15 hatched out, 35 living. Used 50 larvæ. |
| 14     | 144 | 0 | 0 | No. 125 (1-5,000,000)...        | 56 hours and 35 minutes.... | Used 50 larvæ.                            |
| 14     | 145 | 0 | 0 | No. 125 (1-5,000,000)...        | 56 hours and 31 minutes.... | Do.                                       |
| 14     | 146 | 0 | 0 | Control for 144 and 145.        | -----                       | 35 living Oct. 16. Used 50 larvæ.         |
| 21     | 147 | 0 | 0 | No. 125 (1-5,000,000)...        | 1 day and 7 hours.....      | Used 25 larvæ.                            |
| 22     | 148 | 0 | 0 | No. 125 (1-5,000,000)...        | 19 hours and 40 minutes.... | Do.                                       |
| 21     | 149 | 0 | 0 | Control for 147 and 148.        | -----                       | 18 alive, 2 dead, Oct. 23. Used 25 larvæ. |

<sup>1</sup> Control.<sup>8</sup> Check on No. 136.<sup>6</sup> Check on No. 139.<sup>7</sup> Check on No. 140.<sup>5</sup> Check on No. 141.<sup>9</sup> Check on No. 147.

## LIFE EXPECTANCY IN IRELAND AND COMPARISON WITH OTHER COUNTRIES

In a recent article,<sup>1</sup> life tables for Ireland for the years 1911 and 1926 were compared with similar data for certain other countries. The figures showing the male and female expectancy in Ireland and the comparisons with other countries are of especial interest and are presented here.

Table 1 shows for 1911 and 1926 the complete life expectancy of the Irish people in their own country (by sex) at birth and at 10-year intervals up to 100 years.

TABLE 1.—*Complete expectation of life at specified ages, by sex, for Ireland, 1911 and 1926*

| Exact age | 1911 |        | 1926 |        | Exact age | 1911 |        | 1926 |        |
|-----------|------|--------|------|--------|-----------|------|--------|------|--------|
|           | Male | Female | Male | Female |           | Male | Female | Male | Female |
| 0.....    | 52.9 | 53.6   | 56.7 | 57.4   | 60.....   | 15.6 | 16.1   | 15.4 | 16.1   |
| 10.....   | 52.6 | 52.5   | 55.0 | 54.6   | 70.....   | 10.2 | 10.7   | 9.7  | 10.5   |
| 20.....   | 44.1 | 44.4   | 46.2 | 46.1   | 80.....   | 5.8  | 6.1    | 5.8  | 6.5    |
| 30.....   | 36.6 | 36.9   | 38.2 | 38.3   | 90.....   | 3.0  | 3.3    | 3.3  | 3.6    |
| 40.....   | 29.2 | 29.6   | 30.1 | 30.6   | 100.....  | 1.8  | 2.1    | 1.8  | 1.6    |
| 50.....   | 21.9 | 22.4   | 22.4 | 23.0   |           |      |        |      |        |

The striking feature of the comparison by sex, for either 1911 or 1926, is the similarity of the two curves, not only in general trend but in absolute values, at birth and throughout life. It is the only country for which we have life tables where the female expectancy is not higher than the male. The report states: "In no other country is the vitality of the female population inferior to that of the male population during the most important period of life."<sup>2</sup>

Because of this close agreement of the curves by sex, only the male expectation for 1911 and 1926 is plotted in Figure 1, which presents the data by individual years from birth to 106 years of age. The improvement in expectation is primarily associated with the earlier years of life. At birth there is an addition of almost 4 years. This improvement decreases gradually until, at 45 years of age, the curves have the same value; and they continue practically identical for the remainder of life.

In Table 2 is given a comparison of life expectancy, at birth and at 10-year intervals, for Ireland in 1926 with that for same period for the Irish Free State (comprising about five-sixths of Ireland), for England and Wales for 1921, for the United States (registration area)

<sup>1</sup> Irish life tables, Nos. 1 and 2, for the years 1911 and 1926, and some of the more important deductions from them. By Joseph W. Bigger and Robert A. Q. O'Meara. *Amer. Jour. of Hyg.*, Vol. XV, No. 1, January, 1932, pp. 138-162.

<sup>2</sup> *Idem*, p. 150.

for 1922, and for Germany for 1925. As would be expected, the curves for Ireland and for the Irish Free State are practically the same.

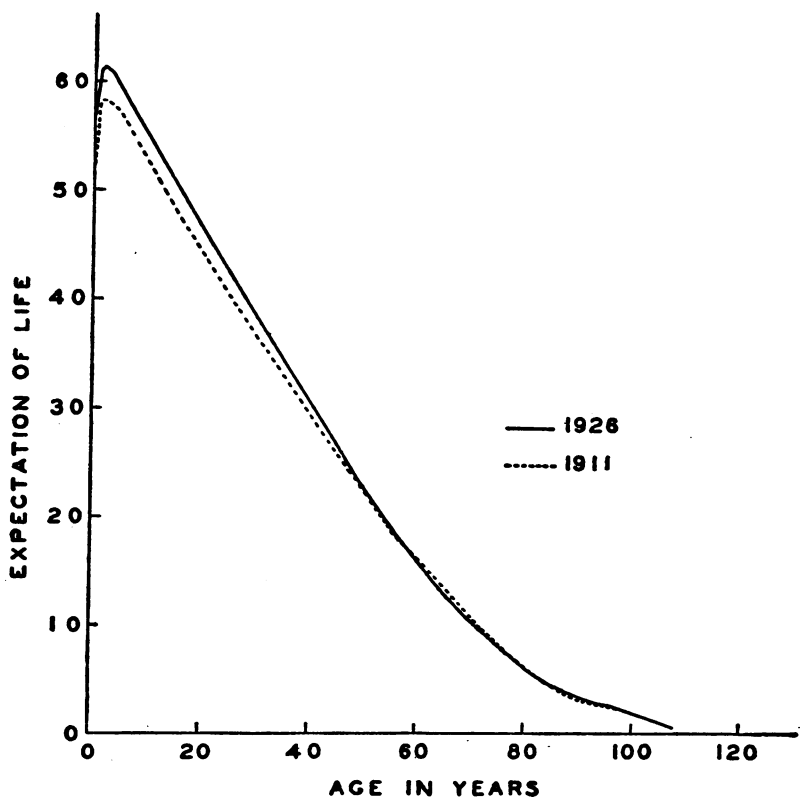


FIGURE 1.—Male life expectation in Ireland for 1911 and 1926, by individual years from birth to 106 years of age

TABLE 2.—Complete expectation of life at certain ages, by sex, for specified countries and dates

| Exact age | Males         |                        |                         |                                      |               | Females       |                        |                         |                                      |               |
|-----------|---------------|------------------------|-------------------------|--------------------------------------|---------------|---------------|------------------------|-------------------------|--------------------------------------|---------------|
|           | Ireland, 1926 | Irish Free State, 1926 | England and Wales, 1921 | United States registration area 1922 | Germany, 1925 | Ireland, 1926 | Irish Free State, 1921 | England and Wales, 1921 | United States registration area 1922 | Germany, 1925 |
| 0.....    | 56.7          | 57.4                   | 55.6                    | 57.8                                 | 56.0          | 57.4          | 57.9                   | 59.6                    | 59.0                                 | 58.8          |
| 10.....   | 55.0          | 55.2                   | 54.6                    | 54.1                                 | 55.6          | 54.6          | 54.9                   | 57.5                    | 55.2                                 | 57.1          |
| 20.....   | 46.2          | 46.4                   | 45.8                    | 45.4                                 | 46.7          | 46.1          | 46.4                   | 48.7                    | 46.4                                 | 48.1          |
| 30.....   | 38.2          | 38.4                   | 37.4                    | 37.3                                 | 38.6          | 38.3          | 38.6                   | 40.3                    | 38.4                                 | 39.8          |
| 40.....   | 30.1          | 30.4                   | 29.2                    | 29.3                                 | 30.1          | 30.6          | 30.8                   | 31.9                    | 30.4                                 | 31.4          |
| 50.....   | 22.4          | 22.7                   | 21.4                    | 21.7                                 | 21.9          | 23.0          | 23.2                   | 23.7                    | 22.7                                 | 23.1          |
| 60.....   | 15.4          | 15.8                   | 14.4                    | 14.8                                 | 14.6          | 16.1          | 16.4                   | 16.2                    | 15.6                                 | 15.6          |
| 70.....   | 9.7           | 10.0                   | 8.7                     | 9.2                                  | 8.7           | 10.5          | 10.7                   | 10.0                    | 9.8                                  | 9.3           |
| 80.....   | 5.8           | 5.8                    | 4.9                     | 5.2                                  | 4.8           | 6.5           | 6.5                    | 5.6                     | 5.6                                  | 5.1           |
| 90.....   | 3.3           | 3.3                    | 2.8                     | 3.1                                  | (1)           | 3.6           | 3.7                    | 3.1                     | 3.2                                  | (1)           |

<sup>1</sup> Data not available.

For males there are no striking differences in life expectancy in the different countries for the same ages.

For females in Ireland, life expectancy is  $1\frac{1}{2}$  to 2 years lower at birth than in any other country included in the table. From 10 to 30 years of age, Ireland and the United States have similar values, lower than for Germany and for England and Wales. No great differences by country are found for the later years of life.

## COURT DECISION RELATING TO PUBLIC HEALTH

*Law relating to inspection of livestock intended for slaughter upheld.*—(Oklahoma Supreme Court; *W. H. Butcher Packing Co. v. Langston*, 7 P. (2d) 631; decided Oct. 27, 1931.) By a 1931 statute (Session Laws 1931, p. 180), the inspection of livestock intended for slaughter was provided for in those counties having a population of more than 65,000 according to the Federal census of 1930. Tulsa county was exempted from the operation of the act. By another 1931 law (Session Laws 1931, p. 181), such inspection was authorized for counties of less than 65,000 population, but this law differed in some respects from the first-mentioned law, one of the differences being that the law pertaining to counties of less than 65,000 population exacted smaller fees in the case of certain kinds of animals. In an action in which it was sought to restrain the enforcement of the act relating to the more populous counties, the supreme court upheld such act, taking the view that it was not discriminatory.

## DEATHS DURING WEEK ENDED MAY 14, 1932

*Summary of information received by telegraph from industrial insurance companies for the week ended May 14, 1932, and corresponding week of 1931. (From the Weekly Health Index, issued by the Bureau of the Census, Department of Commerce)*

|  | Week ended<br>May 14, 1932 | Corresponding<br>week, 1931 |
|--|----------------------------|-----------------------------|
| Policies in force.....   | 73, 278, 071               | 75, 158, 197                |
| Number of death claims.....  | 14, 360                    | 14, 697                     |
| Death claims per 1,000 policies in force, annual rate..                      | 10. 2                      | 10. 2                       |
| Death claims per 1,000 policies, first 19 weeks of year,<br>annual rate..... | 10. 5                      | 11. 0                       |

*Deaths<sup>1</sup> from all causes in certain large cities of the United States during the week ended May 14, 1932, infant mortality, annual death rate, and comparison with corresponding week of 1931. (From the Weekly Health Index, issued by the Bureau of the Census, Department of Commerce)*

[The rates published in this summary are based upon midyear population estimates derived from the 1930 census]

| City                                 | Week ended May 14, 1932 |                         |                     |                                    | Corresponding week, 1931 |                     | Death rate <sup>2</sup> for the first 19 weeks |      |
|--------------------------------------|-------------------------|-------------------------|---------------------|------------------------------------|--------------------------|---------------------|--|------|
|                                      | Total deaths            | Death rate <sup>2</sup> | Deaths under 1 year | Infant mortality-rate <sup>3</sup> | Death rate <sup>2</sup>  | Deaths under 1 year | 1932   | 1931 |
| Total (85 cities) .....              | 8,026                   | 11.5                    | 685                 | 4.68                               | 11.7                     | 629                 | 12.4   | 13.5 |
| Akron .....                          | 36                      | 7.1                     | 2                   | 25                                 | 7.3                      | 1                   | 7.6  | 8.4  |
| Albany <sup>4</sup> .....            | 33                      | 13.2                    | 2                   | 41                                 | 11.3                     | 2                   | 14.7   | 15.3 |
| Atlanta <sup>4</sup> .....           | 80                      | 14.8                    | 9                   | 88                                 | 13.3                     | 8                   | 14.1   | 16.0 |
| White .....                          | 43                      | 12.0                    | 3                   | 44                                 | 11.3                     | 6                   | 11.1   | 12.7 |
| Colored .....                        | 37                      | 20.2                    | 6                   | 172                                | 17.3                     | 2                   | 20.0   | 22.3 |
| Baltimore <sup>4,5</sup> .....       | 225                     | 14.3                    | 15                  | 53                                 | 13.1                     | 11                  | 14.6   | 16.6 |
| White .....                          | 175                     | 13.7                    | 12                  | 54                                 | 11.7                     | 6                   | 13.6   | 15.2 |
| Colored .....                        | 50                      | 17.4                    | 3                   | 48                                 | 19.2                     | 5                   | 19.4   | 23.1 |
| Birmingham <sup>4</sup> .....        | 66                      | 12.5                    | 8                   | 83                                 | 11.4                     | 0                   | 12.1   | 15.2 |
| White .....                          | 29                      | 8.8                     | 1                   | 16                                 | 9.4                      | 0                   | 9.8  | 11.8 |
| Colored .....                        | 37                      | 18.4                    | 7                   | 189                                | 14.7                     | 0                   | 15.9   | 20.7 |
| Boston .....                         | 202                     | 13.4                    | 10                  | 30                                 | 14.8                     | 22                  | 15.6   | 16.1 |
| Bridgeport .....                     | 20                      | 7.1                     | 2                   | 36                                 | 8.5                      | 1                   | 11.7   | 12.4 |
| Buffalo .....                        | 151                     | 13.4                    | 13                  | 62                                 | 13.6                     | 13                  | 13.9   | 14.9 |
| Cambridge .....                      | 33                      | 15.1                    | 3                   | 62                                 | 15.1                     | 2                   | 14.3   | 13.9 |
| Camden .....                         | 31                      | 13.6                    | 3                   | 53                                 | 9.6                      | 0                   | 16.0   | 17.0 |
| Canton .....                         | 17                      | 8.2                     | 1                   | 25                                 | 13.2                     | 1                   | 10.3   | 11.5 |
| Chicago <sup>4</sup> .....           | 674                     | 10.0                    | 57                  | 56                                 | 9.8                      | 52                  | 10.8   | 11.7 |
| Cincinnati .....                     | 182                     | 18.3                    | 8                   | 51                                 | 13.1                     | 6                   | 16.5   | 17.7 |
| Cleveland .....                      | 207                     | 11.8                    | 15                  | 49                                 | 10.9                     | 20                  | 12.1   | 12.5 |
| Columbus .....                       | 83                      | 14.5                    | 11                  | 111                                | 16.8                     | 11                  | 14.6   | 15.1 |
| Dallas <sup>4</sup> .....            | 50                      | 9.3                     | 1                   | -----                              | 13.2                     | 4                   | 11.1   | 12.5 |
| White .....                          | 36                      | 8.1                     | 1                   | -----                              | 12.2                     | 3                   | 10.2   | 11.0 |
| Colored .....                        | 14                      | 15.0                    | 0                   | -----                              | 17.6                     | 1                   | 15.8   | 19.5 |
| Dayton .....                         | 45                      | 11.3                    | 1                   | 14                                 | 8.7                      | 3                   | 13.3   | 13.2 |
| Denver .....                         | 67                      | 11.9                    | 7                   | 69                                 | 13.2                     | 7                   | 15.8   | 15.3 |
| Des Moines .....                     | 30                      | 10.7                    | 2                   | 34                                 | 13.7                     | 3                   | 12.4   | 12.0 |
| Detroit .....                        | 258                     | 7.8                     | 22                  | 40                                 | 8.2                      | 28                  | 8.5  | 9.5  |
| Duluth .....                         | 23                      | 11.8                    | 2                   | 58                                 | 10.2                     | 1                   | 10.8   | 11.6 |
| El Paso .....                        | 32                      | 15.6                    | 5                   | -----                              | 13.4                     | 10                  | 14.3   | 17.2 |
| Erie .....                           | 31                      | 13.6                    | 3                   | 64                                 | 13.3                     | 2                   | 12.2   | 11.8 |
| Evansville .....                     | 15                      | 7.4                     | 2                   | 67                                 | 9.5                      | 1                   | 9.9  | 11.9 |
| Fall River <sup>4,7</sup> .....      | 30                      | 13.6                    | 7                   | 186                                | 10.9                     | 3                   | 13.2   | 13.4 |
| Filat .....                          | 23                      | 7.1                     | 5                   | 73                                 | 5.4                      | 1                   | 8.6  | 8.0  |
| Fort Wayne .....                     | 20                      | 8.6                     | 1                   | 26                                 | 9.7                      | 0                   | 10.7   | 11.8 |
| Fort Worth <sup>4</sup> .....        | 27                      | 8.3                     | 4                   | -----                              | 13.7                     | 6                   | 10.6   | 12.5 |
| White .....                          | 21                      | 7.6                     | 4                   | -----                              | 13.8                     | 6                   | 10.2   | 12.0 |
| Colored .....                        | 6                       | 11.7                    | 0                   | -----                              | 13.4                     | 0                   | 12.9   | 15.2 |
| Grand Rapids .....                   | 29                      | 8.7                     | 6                   | 102                                | 8.8                      | 4                   | 9.6  | 9.8  |
| Houston <sup>4</sup> .....           | 68                      | 11.0                    | 2                   | -----                              | 10.8                     | 8                   | 11.2   | 11.7 |
| White .....                          | 46                      | 10.1                    | 1                   | -----                              | 10.1                     | 7                   | 10.5   | 10.8 |
| Colored .....                        | 22                      | 13.4                    | 1                   | -----                              | 12.6                     | 1                   | 13.2   | 14.1 |
| Indianapolis <sup>4</sup> .....      | 82                      | 11.5                    | 12                  | 97                                 | 13.4                     | 3                   | 13.7   | 14.9 |
| White .....                          | 74                      | 11.8                    | 11                  | 101                                | 13.5                     | 3                   | 13.3   | 14.5 |
| Colored .....                        | 8                       | 9.1                     | 1                   | 69                                 | 12.7                     | 0                   | 16.5   | 18.4 |
| Jersey City .....                    | 75                      | 12.2                    | 9                   | 75                                 | 10.1                     | 4                   | 12.1   | 13.2 |
| Kansas City, Kans <sup>4</sup> ..... | 28                      | 11.8                    | 2                   | 44                                 | 8.9                      | 3                   | 12.9   | 14.6 |
| White .....                          | 18                      | 9.4                     | 1                   | 27                                 | 8.9                      | 1                   | 12.6   | 13.6 |
| Colored .....                        | 10                      | 22.1                    | 1                   | 128                                | 8.9                      | 2                   | 14.4   | 19.0 |
| Kansas City, Mo. ....                | 98                      | 12.3                    | 7                   | 79                                 | 12.5                     | 4                   | 13.0   | 14.8 |
| Knoxville <sup>4</sup> .....         | 26                      | 12.1                    | 5                   | 126                                | 13.8                     | 4                   | 12.8   | 14.2 |
| White .....                          | 19                      | 10.6                    | 5                   | 140                                | 12.6                     | 3                   | 11.6   | 13.2 |
| Colored .....                        | 7                       | 20.0                    | 0                   | 0                                  | 20.5                     | 1                   | 18.8   | 19.4 |
| Long Beach .....                     | 23                      | 7.5                     | 0                   | 0                                  | 6.5                      | 0                   | 9.8  | 10.3 |
| Los Angeles .....                    | 263                     | 9.9                     | 20                  | 59                                 | 10.8                     | 15                  | 11.2   | 11.4 |
| Louisville <sup>4</sup> .....        | 82                      | 13.9                    | 7                   | 64                                 | 11.7                     | 4                   | 14.3   | 16.3 |
| White .....                          | 64                      | 12.8                    | 6                   | 63                                 | 10.0                     | 3                   | 12.9   | 14.7 |
| Colored .....                        | 18                      | 19.7                    | 1                   | 75                                 | 20.8                     | 1                   | 22.0   | 25.3 |
| Lowell <sup>7</sup> .....            | 21                      | 11.0                    | 2                   | 52                                 | 12.5                     | 4                   | 14.6   | 14.0 |
| Lynn .....                           | 21                      | 10.7                    | 1                   | 28                                 | 15.2                     | 1                   | 11.7   | 11.8 |
| Memphis <sup>4</sup> .....           | 83                      | 16.5                    | 5                   | 54                                 | 14.9                     | 7                   | 16.8   | 17.5 |
| White .....                          | 42                      | 13.5                    | 3                   | 51                                 | 10.8                     | 4                   | 13.0   | 14.3 |
| Colored .....                        | 41                      | 21.3                    | 2                   | 60                                 | 21.6                     | 3                   | 22.9   | 22.5 |

See footnotes at end of table.

*Deaths<sup>1</sup> from all causes in certain large cities of the United States during the week ended May 14, 1932, infant mortality, annual death rate, and comparison with corresponding week of 1931—Continued*

| City                           | Week ended May 14, 1932 |                         |                     |                                    | Corresponding week, 1931 |                     | Death rate <sup>2</sup> for the first 19 weeks |      |
|--------------------------------|-------------------------|-------------------------|---------------------|------------------------------------|--------------------------|---------------------|--|------|
|                                | Total deaths            | Death rate <sup>3</sup> | Deaths under 1 year | Infant mortality-rate <sup>4</sup> | Death rate <sup>5</sup>  | Deaths under 1 year | 1932   | 1931 |
| Miami <sup>6</sup>             | 27                      | 12.4                    | 2                   | 55                                 | 13.0                     | 1                   | 12.5   | 13.9 |
| White                          | 15                      | 8.9                     | 1                   | 39                                 | 13.2                     | 1                   | 11.5   | 13.1 |
| Colored                        | 12                      | 24.8                    | 1                   | 101                                | 12.4                     | 0                   | 16.2   | 16.5 |
| Milwaukee                      | 113                     | 9.8                     | 10                  | 48                                 | 8.4                      | 12                  | 9.6  | 10.4 |
| Minneapolis                    | 99                      | 10.7                    | 8                   | 52                                 | 11.2                     | 9                   | 11.3   | 12.0 |
| Nashville <sup>6</sup>         | 42                      | 14.0                    | 4                   | 60                                 | 15.4                     | 4                   | 15.4   | 17.8 |
| White                          | 28                      | 12.8                    | 2                   | 39                                 | 13.9                     | 2                   | 14.2   | 15.5 |
| Colored                        | 14                      | 17.1                    | 2                   | 125                                | 19.5                     | 2                   | 18.7   | 24.1 |
| New Bedford <sup>7</sup>       | 16                      | 7.4                     | 2                   | 58                                 | 16.2                     | 5                   | 13.0   | 13.6 |
| New Haven                      | 45                      | 14.5                    | 3                   | 60                                 | 9.9                      | 2                   | 13.5   | 13.4 |
| New Orleans <sup>8</sup>       | 131                     | 14.4                    | 9                   | 51                                 | 15.4                     | 10                  | 15.8   | 18.4 |
| White                          | 79                      | 12.3                    | 5                   | 44                                 | 12.2                     | 3                   | 13.4   | 15.0 |
| Colored                        | 52                      | 19.8                    | 4                   | 65                                 | 23.2                     | 7                   | 21.6   | 26.9 |
| New York                       | 1,525                   | 11.0                    | 152                 | 68                                 | 11.4                     | 124                 | 11.8   | 13.0 |
| Brooklyn Borough               | 215                     | 8.1                     | 21                  | 61                                 | 8.8                      | 16                  | 8.8  | 9.4  |
| Brooklyn Borough               | 534                     | 10.4                    | 47                  | 52                                 | 10.3                     | 45                  | 11.0   | 12.0 |
| Manhattan Borough              | 572                     | 16.8                    | 65                  | 93                                 | 17.2                     | 53                  | 18.1   | 19.9 |
| Queens Borough                 | 163                     | 7.0                     | 17                  | 71                                 | 7.1                      | 4                   | 7.5  | 8.3  |
| Richmond Borough               | 41                      | 12.8                    | 2                   | 39                                 | 15.3                     | 6                   | 14.5   | 14.3 |
| Newark, N. J.                  | 79                      | 9.2                     | 15                  | 82                                 | 10.9                     | 7                   | 11.9   | 13.3 |
| Oakland                        | 50                      | 8.7                     | 1                   | 13                                 | 9.3                      | 3                   | 11.2   | 11.3 |
| Oklahoma City                  | 36                      | 9.1                     | 3                   | 41                                 | 11.4                     | 3                   | 10.8   | 12.2 |
| Omaha                          | 57                      | 13.6                    | 3                   | 34                                 | 15.6                     | 9                   | 14.5   | 14.5 |
| Paterson                       | 37                      | 13.9                    | 4                   | 73                                 | 13.5                     | 4                   | 13.7   | 16.7 |
| Peoria                         | 25                      | 11.8                    | 2                   | 55                                 | 12.0                     | 0                   | 12.1   | 13.7 |
| Philadelphia                   | 466                     | 12.3                    | 31                  | 48                                 | 13.2                     | 44                  | 13.9   | 15.6 |
| Pittsburgh                     | 180                     | 13.8                    | 28                  | 128                                | 13.0                     | 12                  | 14.5   | 17.3 |
| Portland, Oreg.                | 62                      | 10.4                    | 1                   | 13                                 | 12.9                     | 2                   | 12.0   | 12.5 |
| Providence                     | 55                      | 11.2                    | 4                   | 39                                 | 11.9                     | 3                   | 15.2   | 14.8 |
| Richmond <sup>8</sup>          | 53                      | 14.9                    | 6                   | 90                                 | 16.1                     | 4                   | 14.9   | 17.6 |
| White                          | 26                      | 10.3                    | 1                   | 22                                 | 13.5                     | 2                   | 12.5   | 15.2 |
| Colored                        | 27                      | 26.7                    | 5                   | 229                                | 22.7                     | 2                   | 20.9   | 23.8 |
| Rochester                      | 91                      | 14.2                    | 4                   | 38                                 | 14.8                     | 4                   | 13.1   | 13.7 |
| St. Louis                      | 222                     | 13.9                    | 16                  | 57                                 | 12.7                     | 6                   | 14.8   | 17.4 |
| St. Paul                       | 59                      | 11.0                    | 4                   | 43                                 | 10.0                     | 3                   | 11.4   | 11.6 |
| Salt Lake City <sup>9</sup>    | 25                      | 9.0                     | 1                   | 16                                 | 13.1                     | 2                   | 11.4   | 13.0 |
| San Antonio                    | 46                      | 9.7                     | 13                  | 18.9                               | 13                       | 13                  | 14.5   | 15.9 |
| San Diego                      | 49                      | 15.7                    | 0                   | 0                                  | 16.0                     | 0                   | 15.8   | 15.0 |
| San Francisco                  | 145                     | 11.4                    | 9                   | 62                                 | 14.0                     | 7                   | 13.3   | 14.1 |
| Schenectady                    | 18                      | 9.8                     | 2                   | 58                                 | 8.7                      | 0                   | 11.8   | 11.8 |
| Seattle                        | 88                      | 12.2                    | 5                   | 50                                 | 11.4                     | 3                   | 12.4   | 12.8 |
| Somerville                     | 10                      | 4.9                     | 1                   | 40                                 | 10.4                     | 1                   | 10.1   | 11.2 |
| South Bend                     | 16                      | 7.5                     | 0                   | 0                                  | 6.8                      | 1                   | 8.2  | 9.0  |
| Spokane                        | 29                      | 8.9                     | 0                   | 0                                  | 10.3                     | 0                   | 12.4   | 13.0 |
| Springfield, Mass.             | 31                      | 10.5                    | 5                   | 84                                 | 14.4                     | 4                   | 11.9   | 13.8 |
| Syracuse                       | 61                      | 14.8                    | 2                   | 26                                 | 10.3                     | 4                   | 12.8   | 12.8 |
| Tacoma                         | 39                      | 18.3                    | 3                   | 83                                 | 13.1                     | 3                   | 12.8   | 14.1 |
| Tampa <sup>8</sup>             | 32                      | 15.5                    | 6                   | 171                                | 7.9                      | 1                   | 12.6   | 13.2 |
| White                          | 19                      | 11.7                    | 4                   | 139                                | 6.9                      | 0                   | 12.0   | 12.1 |
| Colored                        | 13                      | 29.8                    | 2                   | 317                                | 11.7                     | 1                   | 15.0   | 17.6 |
| Toledo                         | 50                      | 8.7                     | 3                   | 33                                 | 11.8                     | 8                   | 12.5   | 13.1 |
| Trenton                        | 40                      | 16.8                    | 2                   | 40                                 | 19.8                     | 3                   | 17.6   | 19.0 |
| Utica                          | 31                      | 15.8                    | 1                   | 28                                 | 10.2                     | 3                   | 17.5   | 16.2 |
| Washington, D. C. <sup>8</sup> | 155                     | 16.4                    | 12                  | 67                                 | 13.8                     | 10                  | 17.5   | 17.8 |
| White                          | 87                      | 12.7                    | 7                   | 57                                 | 12.2                     | 3                   | 15.5   | 15.2 |
| Colored                        | 68                      | 26.0                    | 5                   | 89                                 | 18.2                     | 7                   | 22.6   | 24.6 |
| Waterbury                      | 12                      | 6.2                     | 1                   | 33                                 | 8.8                      | 1                   | 10.2   | 11.0 |
| Wilmington, Del. <sup>7</sup>  | 18                      | 8.8                     | 0                   | 0                                  | 9.8                      | 2                   | 17.2   | 16.2 |
| Worcester                      | 53                      | 13.9                    | 4                   | 56                                 | 11.1                     | 4                   | 13.5   | 14.8 |
| Yonkers                        | 17                      | 6.3                     | 1                   | 26                                 | 8.3                      | 2                   | 8.5  | 9.8  |
| Youngstown                     | 30                      | 8.9                     | 3                   | 49                                 | 12.4                     | 6                   | 10.8   | 11.4 |

<sup>1</sup> Deaths of nonresidents are included. Stillbirths are excluded.

<sup>2</sup> These rates represent annual rates per 1,000 population, as estimated for 1932 and 1931 by the arithmetical method.

<sup>3</sup> Deaths under 1 year of age per 1,000 estimated live births. Cities left blank are not in the registration area for births.

<sup>4</sup> Data for 80 cities.

<sup>5</sup> Deaths for week ended Friday.

<sup>6</sup> For the cities for which deaths are shown by color the percentages of colored population in 1930 were as follows: Atlanta, 33; Baltimore, 18; Birmingham, 38; Dallas, 17; Fort Worth, 16; Houston, 27; Indianapolis, 12; Kansas City, Kans., 19; Knoxville, 16; Louisville, 15; Memphis, 38; Miami, 23; Nashville, 28; New Orleans, 29; Richmond, 29; Tampa, 21; and Washington, D. C., 27.

<sup>7</sup> Population Apr. 1, 1930; decreased 1920 to 1930, no estimate made.

# PREVALENCE OF DISEASE

*No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring*

## UNITED STATES

### CURRENT WEEKLY STATE REPORTS

These reports are preliminary, and the figures are subject to change when later returns are received by the State health officers

Reports for Weeks Ended May 21, 1932, and May 23, 1931

*Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended May 21, 1932, and May 23, 1931*

| Division and State                | Diphtheria              |                         | Influenza               |                         | Measles                 |                         | Meningococcus meningitis |                         |
|-----------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|--------------------------|-------------------------|
|                                   | Week ended May 21, 1932 | Week ended May 23, 1931 | Week ended May 21, 1932 | Week ended May 23, 1931 | Week ended May 21, 1932 | Week ended May 23, 1931 | Week ended May 21, 1932  | Week ended May 23, 1931 |
| <b>New England States:</b>        |                         |                         |                         |                         |                         |                         |                          |                         |
| Maine.....                        | 3                       | 8                       | 5                       | 2                       | 296                     | 5                       | 0                        | 1                       |
| New Hampshire.....                | 3                       |                         |                         |                         | 98                      | 88                      | 0                        | 0                       |
| Vermont.....                      |                         |                         |                         |                         | 262                     |                         | 0                        | 0                       |
| Massachusetts.....                | 37                      | 45                      | 2                       | 8                       | 1,156                   | 609                     | 1                        | 2                       |
| Rhode Island.....                 | 4                       | 4                       |                         |                         | 84                      | 171                     | 0                        | 0                       |
| Connecticut.....                  | 3                       | 6                       | 3                       | 2                       | 299                     | 634                     | 1                        | 2                       |
| <b>Middle Atlantic States:</b>    |                         |                         |                         |                         |                         |                         |                          |                         |
| New York.....                     | 93                      | 130                     | 12                      | 17                      | 3,216                   | 3,516                   | 5                        | 12                      |
| New Jersey.....                   | 31                      | 40                      | 19                      | 5                       | 1,092                   | 1,104                   | 1                        | 8                       |
| Pennsylvania.....                 | 76                      | 67                      |                         |                         | 1,905                   | 3,007                   | 15                       | 10                      |
| <b>East North Central States:</b> |                         |                         |                         |                         |                         |                         |                          |                         |
| Ohio.....                         | 23                      | 15                      | 11                      | 10                      | 1,526                   | 587                     | 1                        | 3                       |
| Indiana.....                      | 19                      | 13                      | 12                      | 12                      | 143                     | 810                     | 4                        | 8                       |
| Illinois.....                     | 81                      | 104                     | 87                      | 7                       | 1,174                   | 2,220                   | 5                        | 22                      |
| Michigan.....                     | 11                      | 40                      | 13                      |                         | 2,908                   | 355                     | 5                        | 8                       |
| Wisconsin.....                    | 9                       | 15                      | 22                      | 14                      | 2,397                   | 702                     | 1                        | 0                       |
| <b>West North Central States:</b> |                         |                         |                         |                         |                         |                         |                          |                         |
| Minnesota.....                    | 9                       | 7                       | 4                       | 1                       | 63                      | 231                     | 2                        | 0                       |
| Iowa.....                         | 7                       | 9                       |                         |                         | 6                       | 86                      | 2                        | 0                       |
| Missouri.....                     | 32                      | 34                      |                         | 7                       | 100                     | 409                     | 2                        | 3                       |
| North Dakota.....                 | 3                       | 1                       |                         |                         | 49                      | 45                      | 0                        | 0                       |
| South Dakota.....                 | 2                       | 5                       |                         | 1                       | 7                       | 21                      | 0                        | 0                       |
| Nebraska.....                     | 15                      | 2                       |                         |                         | 5                       | 4                       | 0                        | 3                       |
| Kansas.....                       | 11                      | 10                      | 1                       | 5                       | 414                     | 112                     | 3                        | 0                       |
| <b>South Atlantic States:</b>     |                         |                         |                         |                         |                         |                         |                          |                         |
| Delaware.....                     | 1                       |                         |                         |                         |                         | 131                     | 0                        | 0                       |
| Maryland <sup>1</sup> .....       | 12                      | 12                      | 9                       | 5                       | 59                      | 1,105                   | 2                        | 4                       |
| District of Columbia.....         | 5                       | 7                       |                         | 1                       | 18                      | 248                     | 0                        | 3                       |
| Virginia <sup>1</sup> .....       |                         |                         |                         |                         |                         |                         |                          |                         |
| West Virginia.....                | 12                      | 7                       | 39                      | 11                      | 215                     | 131                     | 1                        | 0                       |
| North Carolina.....               | 16                      | 17                      | 74                      | 5                       | 672                     | 854                     | 3                        | 4                       |
| South Carolina.....               | 6                       | 6                       | 625                     | 254                     | 203                     | 130                     | 0                        | 0                       |
| Georgia <sup>1</sup> .....        | 6                       | 5                       | 89                      | 44                      | 55                      | 175                     | 0                        | 3                       |
| Florida <sup>1</sup> .....        | 11                      | 3                       | 5                       | 3                       | 13                      | 118                     | 1                        | 1                       |
| <b>East South Central States:</b> |                         |                         |                         |                         |                         |                         |                          |                         |
| Kentucky.....                     | 13                      |                         | 37                      |                         | 73                      | 120                     | 1                        | 2                       |
| Tennessee.....                    | 8                       | 6                       | 37                      | 19                      | 10                      | 122                     | 1                        | 4                       |
| Alabama <sup>1</sup> .....        | 6                       | 8                       | 26                      | 14                      | 7                       | 138                     | 0                        | 7                       |
| Mississippi.....                  | 8                       | 4                       |                         |                         |                         |                         | 0                        | 2                       |

<sup>1</sup> New York City only.

<sup>2</sup> Week ended Friday.

<sup>3</sup> Typhus fever, week ended May 21, 1932, 8 cases: 1 case in Virginia, 2 cases in Georgia, 2 cases in Florida, 1 case in Alabama, and 2 cases in Texas.

*Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended May 21, 1932, and May 23, 1931—Continued*

| Division and State                | Diphtheria              |                         | Influenza               |                         | Measles                 |                         | Meningococcus meningitis |                         |
|-----------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|--------------------------|-------------------------|
|                                   | Week ended May 21, 1932 | Week ended May 23, 1931 | Week ended May 21, 1932 | Week ended May 23, 1931 | Week ended May 21, 1932 | Week ended May 23, 1931 | Week ended May 21, 1932  | Week ended May 23, 1931 |
| <b>West South Central States:</b> |                         |                         |                         |                         |                         |                         |                          |                         |
| Arkansas.....                     | 6                       | 4                       | 19                      | 14                      | 1                       | 60                      | 1                        | 0                       |
| Louisiana.....                    | 21                      | 20                      | 17                      | 12                      | 52                      | 15                      | 1                        | 3                       |
| Oklahoma.....                     | 4                       | 11                      | 15                      | 40                      | 33                      | 23                      | 1                        | 0                       |
| Texas.....                        | 18                      | 23                      | 20                      | 31                      | 89                      | 58                      | 0                        | 0                       |
| <b>Mountain States:</b>           |                         |                         |                         |                         |                         |                         |                          |                         |
| Montana.....                      | 1                       | 3                       | 1                       | -----                   | 117                     | 13                      | 0                        | 1                       |
| Idaho.....                        | 3                       | 1                       | -----                   | -----                   | -----                   | 2                       | 0                        | 0                       |
| Wyoming.....                      | -----                   | -----                   | 1                       | -----                   | 29                      | 2                       | 0                        | 0                       |
| Colorado.....                     | 7                       | 4                       | -----                   | -----                   | 104                     | 136                     | 1                        | 0                       |
| New Mexico.....                   | 9                       | 6                       | 28                      | 2                       | 36                      | 118                     | 0                        | 0                       |
| Arizona.....                      | 5                       | 1                       | 1                       | 1                       | -----                   | 52                      | 2                        | 2                       |
| Utah.....                         | 3                       | 1                       | -----                   | 1                       | -----                   | 2                       | 0                        | 0                       |
| <b>Pacific States:</b>            |                         |                         |                         |                         |                         |                         |                          |                         |
| Washington.....                   | 5                       | 6                       | -----                   | -----                   | 223                     | 405                     | 0                        | 0                       |
| Oregon.....                       | 8                       | 6                       | 30                      | 15                      | 256                     | 96                      | 0                        | 1                       |
| California.....                   | 75                      | 76                      | 59                      | 35                      | 696                     | 1, 110                  | 2                        | 4                       |
|                                   | 741                     | 792                     | 1, 323                  | 588                     | 20, 161                 | 20, 080                 | 65                       | 123                     |

| Division and State                | Polio myelitis          |                         | Scarlet fever           |                         | Smallpox                |                         | Typhoid fever           |                         |
|-----------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
|                                   | Week ended May 21, 1932 | Week ended May 23, 1931 | Week ended May 21, 1932 | Week ended May 23, 1931 | Week ended May 21, 1932 | Week ended May 23, 1931 | Week ended May 21, 1932 | Week ended May 23, 1931 |
| <b>New England States:</b>        |                         |                         |                         |                         |                         |                         |                         |                         |
| Maine.....                        | 0                       | 0                       | 25                      | 24                      | 0                       | 0                       | 2                       | 0                       |
| New Hampshire.....                | 0                       | 0                       | 38                      | 4                       | 0                       | 0                       | 0                       | 0                       |
| Vermont.....                      | 0                       | 0                       | 12                      | 7                       | 7                       | 5                       | 0                       | 1                       |
| Massachusetts.....                | 0                       | 2                       | 523                     | 384                     | 0                       | 0                       | 4                       | 4                       |
| Rhode Island.....                 | 0                       | 1                       | 63                      | 40                      | 0                       | 0                       | 0                       | 0                       |
| Connecticut.....                  | 0                       | 0                       | 106                     | 54                      | 0                       | 0                       | 0                       | 2                       |
| <b>Middle Atlantic States:</b>    |                         |                         |                         |                         |                         |                         |                         |                         |
| New York.....                     | 2                       | 4                       | 1, 517                  | 931                     | 3                       | 7                       | 7                       | 14                      |
| New Jersey.....                   | 3                       | 1                       | 280                     | 305                     | 0                       | 6                       | 2                       | 3                       |
| Pennsylvania.....                 | 1                       | 1                       | 1, 024                  | 404                     | 0                       | 0                       | 5                       | 13                      |
| <b>East North Central States:</b> |                         |                         |                         |                         |                         |                         |                         |                         |
| Ohio.....                         | 1                       | 0                       | 225                     | 221                     | 19                      | 46                      | 1                       | 6                       |
| Indiana.....                      | 0                       | 0                       | 52                      | 145                     | 6                       | 98                      | 1                       | 0                       |
| Illinois.....                     | 1                       | 1                       | 281                     | 524                     | 3                       | 75                      | 8                       | 5                       |
| Michigan.....                     | 1                       | 0                       | 464                     | 470                     | 4                       | 26                      | 7                       | 4                       |
| Wisconsin.....                    | 0                       | 0                       | 63                      | 121                     | 0                       | 2                       | 1                       | 2                       |
| <b>West North Central States:</b> |                         |                         |                         |                         |                         |                         |                         |                         |
| Minnesota.....                    | 0                       | 2                       | 90                      | 69                      | 5                       | 5                       | 1                       | 2                       |
| Iowa.....                         | 0                       | 0                       | 39                      | 69                      | 45                      | 57                      | 4                       | 0                       |
| Missouri.....                     | 0                       | 0                       | 33                      | 167                     | 0                       | 24                      | 6                       | 7                       |
| North Dakota.....                 | 0                       | 0                       | 5                       | 29                      | 6                       | 6                       | 0                       | 1                       |
| South Dakota.....                 | 0                       | 0                       | 5                       | 4                       | 0                       | 16                      | 0                       | 0                       |
| Nebraska.....                     | 0                       | 0                       | 25                      | 39                      | 12                      | 24                      | 0                       | 0                       |
| Kansas.....                       | 1                       | 0                       | 25                      | 44                      | 12                      | 74                      | 4                       | 3                       |
| <b>South Atlantic States:</b>     |                         |                         |                         |                         |                         |                         |                         |                         |
| Delaware.....                     | 0                       | 0                       | 11                      | 14                      | 0                       | 0                       | 1                       | 1                       |
| Maryland.....                     | 0                       | 2                       | 80                      | 79                      | 0                       | 0                       | 4                       | 5                       |
| District of Columbia.....         | 0                       | 0                       | 20                      | 13                      | 0                       | 0                       | 1                       | 2                       |
| Virginia.....                     | 1                       | -----                   | -----                   | -----                   | -----                   | -----                   | -----                   | -----                   |
| West Virginia.....                | 0                       | 0                       | 14                      | 40                      | 0                       | 8                       | 13                      | 5                       |
| North Carolina.....               | 0                       | 1                       | 40                      | 34                      | 0                       | 0                       | 13                      | 1                       |
| South Carolina.....               | 1                       | 0                       | 3                       | 6                       | 0                       | 6                       | 18                      | 10                      |
| Georgia.....                      | 0                       | 0                       | 6                       | 63                      | 0                       | 0                       | 10                      | 6                       |
| Florida.....                      | 0                       | 0                       | 1                       | 2                       | 0                       | 0                       | 3                       | 5                       |

<sup>1</sup>Week ended Friday.

<sup>2</sup>Typhus fever, week ended May 21, 1932, 8 cases: 1 case in Virginia, 2 cases in Georgia, 2 cases in Florida, 1 case in Alabama, and 2 cases in Texas.

<sup>4</sup>Figures for 1932 are exclusive of Oklahoma City and Tulsa, and for 1931 are exclusive of Tulsa only.



*Cases of certain communicable diseases reported by telegraph by State health officers  
for weeks ended May 21, 1932, and May 23, 1931—Continued*

| Division and State                | Poliomyelitis                       |                                     | Scarlet fever                       |                                     | Smallpox                            |                                     | Typhoid fever                       |                                     |
|-----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
|                                   | Week<br>ended<br>May<br>21,<br>1932 | Week<br>ended<br>May<br>23,<br>1931 | Week<br>ended<br>May<br>21,<br>1932 | Week<br>ended<br>May<br>23,<br>1931 | Week<br>ended<br>May<br>21,<br>1932 | Week<br>ended<br>May<br>23,<br>1931 | Week<br>ended<br>May<br>21,<br>1932 | Week<br>ended<br>May<br>23,<br>1931 |
| <b>East South Central States:</b> |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
| Kentucky.....                     | 0                                   | 0                                   | 91                                  | 33                                  | 12                                  | 4                                   | 4                                   | 3                                   |
| Tennessee.....                    | 0                                   | 0                                   | 10                                  | 22                                  | 14                                  | 9                                   | 10                                  | 6                                   |
| Alabama <sup>1</sup> .....        | 0                                   | 1                                   | 5                                   | 29                                  | 13                                  | 6                                   | 3                                   | 7                                   |
| Mississippi.....                  | 0                                   | 0                                   | 6                                   | 15                                  | 21                                  | 37                                  | 6                                   | 13                                  |
| <b>West South Central States:</b> |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
| Arkansas.....                     | 0                                   | 0                                   | 2                                   | 12                                  | 7                                   | 33                                  | 4                                   | 5                                   |
| Louisiana.....                    | 0                                   | 0                                   | 14                                  | 23                                  | 16                                  | 14                                  | 23                                  | 7                                   |
| Oklahoma.....                     | 1                                   | 0                                   | 5                                   | 22                                  | 13                                  | 52                                  | 0                                   | 3                                   |
| Texas <sup>1</sup> .....          | 0                                   | 0                                   | 20                                  | 23                                  | 23                                  | 40                                  | 5                                   | 6                                   |
| <b>Mountain States:</b>           |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
| Montana.....                      | 0                                   | 0                                   | 14                                  | 16                                  | 4                                   | 1                                   | 1                                   | 0                                   |
| Idaho.....                        | 0                                   | 0                                   | 6                                   | 4                                   | 0                                   | 1                                   | 0                                   | 1                                   |
| Wyoming.....                      | 0                                   | 0                                   | 6                                   | 9                                   | 0                                   | 1                                   | 0                                   | 0                                   |
| Colorado.....                     | 0                                   | 0                                   | 25                                  | 36                                  | 2                                   | 6                                   | 2                                   | 0                                   |
| New Mexico.....                   | 0                                   | 0                                   | 12                                  | 7                                   | 0                                   | 1                                   | 3                                   | 2                                   |
| Arizona.....                      | 0                                   | 0                                   | 11                                  | 3                                   | 0                                   | 0                                   | 0                                   | 2                                   |
| Utah <sup>1</sup> .....           | 0                                   | 0                                   | 1                                   | 4                                   | 0                                   | 1                                   | 2                                   | 0                                   |
| <b>Pacific States:</b>            |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
| Washington.....                   | 0                                   | 0                                   | 14                                  | 38                                  | 22                                  | 26                                  | 2                                   | 4                                   |
| Oregon.....                       | 0                                   | 0                                   | 8                                   | 13                                  | 10                                  | 19                                  | 4                                   | 0                                   |
| California.....                   | 2                                   | 3                                   | 203                                 | 114                                 | 17                                  | 21                                  | 11                                  | 9                                   |
|                                   | 15                                  | 19                                  | 5,523                               | 4,729                               | 296                                 | 757                                 | 196                                 | 170                                 |

<sup>1</sup> Week ended Friday.

<sup>2</sup> Typhus fever, week ended May 21, 1932, 8 cases: 1 case in Virginia, 2 cases in Georgia, 2 cases in Florida, 1 case in Alabama, and 2 cases in Texas.

<sup>3</sup> Figures for 1932 are exclusive of Oklahoma City and Tulsa, and for 1931 are exclusive of Tulsa only.

### SUMMARY OF MONTHLY REPORTS FROM STATES

The following summary of monthly State reports is published weekly and covers only those States from which reports are received during the current week:

| State              | Menin-<br>gococ-<br>cus<br>menin-<br>gitis | Diph-<br>theria | Influ-<br>enza | Ma-<br>laria | Mea-<br>sles | Pel-<br>lagra | Polio-<br>mye-<br>litis | Scarlet<br>fever | Small-<br>pox | Ty-<br>phoid<br>fever |
|--------------------|--|-----------------|----------------|--------------|--------------|---------------|-------------------------|------------------|---------------|-----------------------|
| <i>April, 1932</i> |  |                 |                |              |              |               |                         |                  |               |                       |
| Alabama.....       | 9  | 77              | 1,301          | 74           | 111          | 45            | 2                       | 71               | 81            | 39                    |
| Idaho.....         |  | 5               | 2              |              | 3            |               |                         | 26               | 5             | 1                     |
| Illinois.....      | 26   | 305             | 395            | 5            | 3,942        |               | 7                       | 1,692            | 31            | 25                    |
| Kansas.....        | 5  | 36              | 22             |              | 1,979        |               | 0                       | 233              | 22            | 5                     |
| Louisiana.....     | 3  | 101             | 82             | 33           | 253          | 27            | 5                       | 45               | 17            | 60                    |
| Maryland.....      | 3  | 52              | 538            | 3            | 165          |               | 0                       | 543              | 0             | 22                    |
| Michigan.....      | 18   | 76              | 93             |              | 7,363        |               | 3                       | 1,821            | 27            | 23                    |
| Minnesota.....     | 5  | 47              | 17             |              | 171          |               | 0                       | 611              | 6             | 4                     |
| Missouri.....      | 14   | 142             | 1,109          | 19           | 367          |               | 1                       | 1,229            |               | 16                    |
| Montana.....       | 2  | 7               | 46             |              | 485          |               | 0                       | 55               | 20            | 8                     |
| New York.....      | 30   | 461             |                | 2            | 9,335        |               | 3                       | 6,845            | 32            | 30                    |
| Ohio.....          | 16   | 182             | 386            | 1            | 8,911        |               | 2                       | 1,674            | 94            | 35                    |
| Pennsylvania.....  | 45   | 338             |                |              | 8,418        | 1             | 8                       | 3,523            | 0             | 42                    |
| Rhode Island.....  | 1  | 23              | 4              |              | 602          |               | 0                       | 272              | 0             | 2                     |
| Texas.....         | 1  | 158             | 1,392          | 345          |              | 1             | 4                       | 166              |               | 24                    |
| West Virginia..... | 9  | 51              | 969            |              | 1,758        |               | 1                       | 119              | 8             | 24                    |
| Wisconsin.....     | 6  | 42              | 750            |              | 7,910        |               | 3                       | 390              | 9             | 14                    |

<sup>1</sup> Exclusive of St. Louis, Kansas City, and St. Joseph.

April, 1932

|                                | Cases | Lethargic encephalitis—Continued             | Cases |
|--------------------------------|-------|--|-------|
| <b>Actinomycosis:</b>          |       | <b>Pennsylvania</b> .....                    | 8     |
| Montana.....                   | 1     | <b>Texas</b> .....                           | 2     |
| <b>Pennsylvania</b> .....      | 1     | <b>Wisconsin</b> .....                       | 2     |
| <b>Anthrax:</b>                |       | <b>Mumps:</b>                                |       |
| Montana.....                   | 1     | Alabama.....                                 | 199   |
| <b>New York</b> .....          | 2     | Idaho.....                                   | 68    |
| <b>Chicken pox:</b>            |       | Illinois.....                                | 357   |
| Alabama.....                   | 221   | Kansas.....                                  | 537   |
| Idaho.....                     | 154   | Louisiana.....                               | 6     |
| Illinois.....                  | 1,150 | Maryland.....                                | 646   |
| Kansas.....                    | 570   | Michigan.....                                | 1,483 |
| Louisiana.....                 | 22    | Missouri.....                                | 280   |
| Maryland.....                  | 577   | Montana.....                                 | 34    |
| Michigan.....                  | 955   | New York.....                                | 1,753 |
| Minnesota.....                 | 190   | Ohio.....                                    | 879   |
| Missouri.....                  | 317   | Pennsylvania.....                            | 3,121 |
| Montana.....                   | 116   | Rhode Island.....                            | 221   |
| New York.....                  | 2,459 | West Virginia.....                           | 14    |
| Ohio.....                      | 1,198 | Wisconsin.....                               | 1,020 |
| Pennsylvania.....              | 2,756 | <b>Ophthalmia neonatorum:</b>                |       |
| Rhode Island.....              | 31    | Illinois.....                                | 4     |
| West Virginia.....             | 104   | New York.....                                | 5     |
| Wisconsin.....                 | 1,230 | Ohio.....                                    | 54    |
| <b>Dengue:</b>                 |       | Pennsylvania.....                            | 11    |
| Alabama.....                   | 1     | <b>Paratyphoid fever:</b>                    |       |
| <b>Diarrhea:</b>               |       | Illinois.....                                | 2     |
| Maryland.....                  | 9     | Kansas.....                                  | 2     |
| <b>Diarrhea and enteritis:</b> |       | Minnesota.....                               | 1     |
| Ohio (under 2 years).....      | 10    | New York.....                                | 2     |
| <b>Dysentery:</b>              |       | <b>Puerperal septicemia:</b>                 |       |
| Illinois.....                  | 9     | Illinois.....                                | 4     |
| Maryland.....                  | 3     | New York.....                                | 18    |
| New York.....                  | 8     | Ohio.....                                    | 4     |
| <b>Food poisoning:</b>         |       | Pennsylvania.....                            | 36    |
| Ohio.....                      | 7     | <b>Rabies in animals:</b>                    |       |
| <b>German measles:</b>         |       | Illinois.....                                | 10    |
| Illinois.....                  | 46    | Louisiana.....                               | 9     |
| Kansas.....                    | 3     | Maryland.....                                | 5     |
| Maryland.....                  | 20    | Missouri.....                                | 4     |
| Montana.....                   | 2     | New York.....                                | 8     |
| New York.....                  | 230   | <b>Rocky Mountain spotted or tick fever:</b> |       |
| Ohio.....                      | 39    | Idaho.....                                   | 6     |
| Pennsylvania.....              | 234   | Maryland.....                                | 1     |
| Rhode Island.....              | 4     | Montana.....                                 | 11    |
| Wisconsin.....                 | 56    | <b>Scabies:</b>                              |       |
| <b>Hookworm disease:</b>       |       | Kansas.....                                  | 9     |
| Louisiana.....                 | 9     | Maryland.....                                | 12    |
| <b>Impetigo contagiosa:</b>    |       | Montana.....                                 | 4     |
| Illinois.....                  | 4     | <b>Septic sore throat:</b>                   |       |
| Maryland.....                  | 15    | Illinois.....                                | 7     |
| Montana.....                   | 1     | Kansas.....                                  | 2     |
| <b>Lead poisoning:</b>         |       | Maryland.....                                | 6     |
| Illinois.....                  | 1     | Michigan.....                                | 39    |
| Ohio.....                      | 7     | Missouri.....                                | 5     |
| <b>Leprosy:</b>                |       | Montana.....                                 | 6     |
| Illinois.....                  | 1     | New York.....                                | 33    |
| Louisiana.....                 | 2     | Ohio.....                                    | 222   |
| <b>Lethargic encephalitis:</b> |       | Rhode Island.....                            | 3     |
| Alabama.....                   | 1     | <b>Tetanus:</b>                              |       |
| Illinois.....                  | 6     | Illinois.....                                | 4     |
| Maryland.....                  | 1     | Louisiana.....                               | 2     |
| Michigan.....                  | 4     | Maryland.....                                | 2     |
| Minnesota.....                 | 1     | New York.....                                | 3     |
| New York.....                  | 10    | Ohio.....                                    | 1     |
| Ohio.....                      | 2     | Pennsylvania.....                            | 3     |

\* Exclusive of New York City.

| Trachoma:         | Cases | Undulant fever—Continued.   | Cases |
|-------------------|-------|-----------------------------|-------|
| Illinois.....     | 5     | Ohio.....                   | 3     |
| Montana.....      | 2     | Pennsylvania.....           | 6     |
| New York.....     | 1     | Wisconsin.....              | 6     |
| Ohio.....         | 7     | Vincent's angina:           |       |
| Pennsylvania..... | 1     | Illinois.....               | 23    |
| Trichinosis:      |       | Kansas.....                 | 72    |
| New York.....     | 3     | Maryland.....               | 12    |
| Tularaemia:       |       | New York <sup>1</sup> ..... | 57    |
| Alabama.....      | 3     | Whooping cough:             |       |
| Illinois.....     | 3     | Alabama.....                | 304   |
| Kansas.....       | 1     | Illinois.....               | 1,538 |
| Louisiana.....    | 2     | Kansas.....                 | 433   |
| Ohio.....         | 1     | Louisiana.....              | 56    |
| Typhus fever:     |       | Maryland.....               | 832   |
| Alabama.....      | 12    | Michigan.....               | 1,541 |
| New York.....     | 2     | Minnesota.....              | 186   |
| Undulant fever:   |       | Missouri.....               | 604   |
| Illinois.....     | 6     | Montana.....                | 37    |
| Kansas.....       | 1     | New York.....               | 2,559 |
| Maryland.....     | 4     | Ohio.....                   | 2,771 |
| Michigan.....     | 5     | Pennsylvania.....           | 3,136 |
| Minnesota.....    | 2     | Rhode Island.....           | 63    |
| Missouri.....     | 9     | West Virginia.....          | 457   |
| New York.....     | 13    | Wisconsin.....              | 1,505 |

### RECIPROCAL NOTIFICATIONS

*Notifications regarding communicable diseases sent during the month of April, 1932, by departments of health of States named to other State health departments*

| Disease             | California | Connecticut | Illinois | Massachusetts | Minnesota | New York |
|---------------------|------------|-------------|----------|---------------|-----------|----------|
| Gonorrhea.....      |            |             |          |               | 3         |          |
| Influenza.....      |            |             |          | 1             |           |          |
| Meningitis.....     |            |             |          |               | 1         |          |
| Pellagra.....       |            |             |          | 1             |           |          |
| Pneumonia.....      |            |             |          | 1             |           |          |
| Scarlet fever.....  |            | 1           | 1        | 5             | 1         | 2        |
| Syphilis.....       |            |             |          |               | 2         |          |
| Tuberculosis.....   | 10         | 1           | 2        |               | 21        |          |
| Undulant fever..... | 1          |             |          |               |           |          |

### PATIENTS IN INSTITUTIONS FOR EPILEPTICS, JULY–SEPTEMBER, 1930

Reports for the third quarter of the year 1930 were received by the Public Health Service from 13 institutions for the care and treatment of epileptics, located in 13 States. The total number of patients, including those on parole or otherwise absent but still on the books, on September 30, 1930, was 8,953.

The first admissions were as follows:

|                | Male | Female | Total |
|----------------|------|--------|-------|
| July.....      | 85   | 63     | 148   |
| August.....    | 61   | 79     | 140   |
| September..... | 59   | 59     | 118   |
| Total.....     | 205  | 201    | 406   |

<sup>1</sup> Exclusive of New York City.

Of the new admissions during the three months, 50.5 per cent were males and 49.5 per cent were females, giving a ratio of 102 males per 100 females.

During the quarter 228 patients were discharged, 142 males and 86 females. Eighty-four male patients and 66 female patients died. The annual death rates, based on the number of patients on the rolls of the institutions on September 30, 1930, were: Males, 70.3 per 1,000; females, 62.2 per 1,000; total patients, 66.5 per 1,000.

At the end of September there were 113 males per 100 females in the institutions.

The following table shows for the 13 institutions the numbers of patients in the hospitals and on parole on July 1, 1930, and at the end of each month of the third quarter of the year.

|  | July 1,<br>1930 | July 31,<br>1930 | Aug. 31,<br>1930 | Sept. 30,<br>1930 |
|--|-----------------|------------------|------------------|-------------------|
| <b>Patients in hospitals:</b>                |                 |                  |                  |                   |
| Male.....                                    | 4,361           | 4,372            | 4,434            | 4,463             |
| Female.....                                  | 3,903           | 3,910            | 3,990            | 4,035             |
| Total.....                                   | 8,264           | 8,282            | 8,424            | 8,498             |
| <b>Patients on parole:</b>                   |                 |                  |                  |                   |
| Male.....                                    | 330             | 357              | 286              | 280               |
| Female.....                                  | 206             | 236              | 194              | 175               |
| Total.....                                   | 536             | 593              | 480              | 455               |
| <b>Total patients on books:</b>              |                 |                  |                  |                   |
| Male.....                                    | 4,691           | 4,729            | 4,720            | 4,743             |
| Female.....                                  | 4,109           | 4,146            | 4,184            | 4,210             |
| Total.....                                   | 8,800           | 8,875            | 8,904            | 8,953             |
| <b>Per cent of total patients on parole:</b> |                 |                  |                  |                   |
| Male.....                                    | 7.0             | 7.5              | 6.1              | 5.9               |
| Female.....                                  | 5.0             | 5.7              | 4.6              | 4.2               |
| Total.....                                   | 6.1             | 6.7              | 5.4              | 5.1               |

## GENERAL CURRENT SUMMARY AND WEEKLY REPORTS FROM CITIES

The 98 cities reporting cases used in the following table are situated in all parts of the country and have an estimated aggregate population of more than 34,050,000. The estimated population of the 91 cities reporting deaths is more than 32,490,000. The estimated expectancy is based on the experience of the last nine years, excluding epidemics.

## Weeks ended May 14, 1932, and May 16, 1931

|                           | 1932   | 1931   | Estimated expectancy |
|---------------------------|--------|--------|----------------------|
| <i>Cases reported</i>     |        |        |                      |
| Diphtheria:               |        |        |                      |
| 46 States.....            | 714    | 799    | ---                  |
| 98 cities.....            | 287    | 402    | 709                  |
| Measles:                  |        |        |                      |
| 45 States.....            | 22,412 | 21,366 | ---                  |
| 98 cities.....            | 7,533  | 9,008  | ---                  |
| Meningococcus meningitis: |        |        |                      |
| 46 States.....            | 69     | 120    | ---                  |
| 98 cities.....            | 36     | 62     | ---                  |
| Poliomyelitis:            |        |        |                      |
| 46 States.....            | 15     | 21     | ---                  |
| Scarlet fever:            |        |        |                      |
| 46 States.....            | 5,643  | 5,401  | ---                  |
| 98 cities.....            | 2,844  | 2,500  | 1,409                |
| Smallpox:                 |        |        |                      |
| 46 States.....            | 287    | 880    | ---                  |
| 98 cities.....            | 32     | 112    | 66                   |
| Typhoid fever:            |        |        |                      |
| 46 States.....            | 172    | 190    | ---                  |
| 98 cities.....            | 36     | 31     | 27                   |
| <i>Deaths reported</i>    |        |        |                      |
| Influenza and pneumonia:  |        |        |                      |
| 91 cities.....            | 696    | 672    | ---                  |
| Smallpox:                 |        |        |                      |
| 91 cities.....            | 0      | 1      | ---                  |
| Memphis, Tenn.....        | 0      | 1      | ---                  |

## City reports for week ended May 14, 1932

The "estimated expectancy" given for diphtheria, poliomyelitis, scarlet fever, smallpox, and typhoid fever is the result of an attempt to ascertain from previous occurrence the number of cases of the disease under consideration that may be expected to occur during a certain week in the absence of epidemics. It is based on reports to the Public Health Service during the past nine years. It is in most instances the median number of cases reported in the corresponding weeks of the preceding years. When the reports include several epidemics, or when for other reasons the median is unsatisfactory, the epidemic periods are excluded, and the estimated expectancy is the mean number of cases reported for the week during non-epidemic years.

If the reports have not been received for the full nine years, data are used for as many years as possible, but no year earlier than 1923 is included. In obtaining the estimated expectancy, the figures are smoothed when necessary to avoid abrupt deviation from the usual trend. For some of the diseases given in the table the available data were not sufficient to make it practicable to compute the estimated expectancy.

| Division, State, and city | Chicken pox, cases reported | Diphtheria                  |                | Influenza      |                 | Measles, cases reported | Mumps, cases reported | Pneumonia, deaths reported |
|---------------------------|-----------------------------|-----------------------------|----------------|----------------|-----------------|-------------------------|-----------------------|----------------------------|
|                           |                             | Cases, estimated expectancy | Cases reported | Cases reported | Deaths reported |                         |                       |                            |
| NEW ENGLAND               |                             |                             |                |                |                 |                         |                       |                            |
| Maine:                    |                             |                             |                |                |                 |                         |                       |                            |
| Portland-----             | 0                           | 0                           | 1              | -----          | 0               | 8                       | 9                     | 2                          |
| New Hampshire:            |                             |                             |                |                |                 |                         |                       |                            |
| Concord-----              | 0                           | 0                           | 0              | -----          | 0               | 2                       | 0                     | 0                          |
| Manchester-----           | 0                           | 0                           | 0              | -----          | 0               | 0                       | 0                     | 1                          |
| Nashua-----               | 0                           | 0                           | 0              | -----          | 0               | 0                       | 0                     | 0                          |
| Vermont:                  |                             |                             |                |                |                 |                         |                       |                            |
| Barre-----                | 0                           | 0                           | 0              | -----          | 0               | 0                       | 1                     | 0                          |
| Burlington-----           | 0                           | 0                           | 0              | -----          | 0               | 0                       | 3                     | 0                          |
| Massachusetts:            |                             |                             |                |                |                 |                         |                       |                            |
| Boston-----               | 46                          | 25                          | 15             | 1              | 1               | 129                     | 87                    | 17                         |
| Fall River-----           | 3                           | 2                           | 0              | 1              | 1               | 46                      | 2                     | 4                          |
| Springfield-----          | 12                          | 2                           | 0              | -----          | 0               | 253                     | 12                    | 0                          |
| Worcester-----            | 10                          | 3                           | 3              | -----          | 0               | 5                       | 0                     | 5                          |
| Rhode Island:             |                             |                             |                |                |                 |                         |                       |                            |
| Pawtucket-----            | 0                           | 1                           | 0              | -----          | 0               | 0                       | 0                     | 0                          |
| Providence-----           | 5                           | 5                           | 1              | -----          | 0               | 32                      | 4                     | 2                          |

## City reports for week ended May 14, 1932—Continued

| Division, State, and city | Chicken pox, cases reported | Diphtheria                  |                | Influenza      |                 | Measles, cases reported | Mumps, cases reported | Pneumonia, deaths reported |
|---------------------------|-----------------------------|-----------------------------|----------------|----------------|-----------------|-------------------------|-----------------------|----------------------------|
|                           |                             | Cases, estimated expectancy | Cases reported | Cases reported | Deaths reported |                         |                       |                            |
| NEW ENGLAND—CON.          |                             |                             |                |                |                 |                         |                       |                            |
| Connecticut:              |                             |                             |                |                |                 |                         |                       |                            |
| Bridgeport.....           | 1                           | 3                           | 0              | 0              | 0               | 21                      | 0                     | 0                          |
| Hartford.....             | 2                           | 3                           | 0              | 3              | 0               | 2                       | 13                    | 6                          |
| New Haven.....            | 22                          | 1                           | 0              | 1              | 1               | 1                       | 21                    | 5                          |
| MIDDLE ATLANTIC           |                             |                             |                |                |                 |                         |                       |                            |
| New York:                 |                             |                             |                |                |                 |                         |                       |                            |
| Buffalo.....              | 25                          | 9                           | 2              | 0              | 0               | 56                      | 3                     | 18                         |
| New York.....             | 313                         | 230                         | 82             | 20             | 9               | 473                     | 177                   | 184                        |
| Rochester.....            | 3                           | 3                           | 0              | 0              | 0               | 26                      | 12                    | 3                          |
| Syracuse.....             | 12                          | 1                           | 0              | 0              | 0               | 274                     | 0                     | 3                          |
| New Jersey:               |                             |                             |                |                |                 |                         |                       |                            |
| Camden.....               | 9                           | 6                           | 2              | 0              | 0               | 0                       | 0                     | 2                          |
| Newark.....               | 72                          | 13                          | 3              | 5              | 1               | 62                      | 239                   | 10                         |
| Trenton.....              | 9                           | 2                           | 0              | 0              | 0               | 4                       | 0                     | 3                          |
| Pennsylvania:             |                             |                             |                |                |                 |                         |                       |                            |
| Philadelphia.....         | 73                          | 55                          | 5              | 9              | 6               | 7                       | 55                    | 38                         |
| Pittsburgh.....           | 62                          | 15                          | 1              | 2              | 5               | 190                     | 42                    | 30                         |
| Reading.....              | 13                          | 1                           | 0              | 0              | 0               | 8                       | 0                     | 2                          |
| Scranton.....             | 0                           | —                           | 2              | 0              | 0               | 2                       | 0                     | 0                          |
| EAST NORTH CENTRAL        |                             |                             |                |                |                 |                         |                       |                            |
| Ohio:                     |                             |                             |                |                |                 |                         |                       |                            |
| Cincinnati.....           | 4                           | 5                           | 1              | 4              | 0               | 0                       | 0                     | 11                         |
| Cleveland.....            | 125                         | 21                          | 5              | 14             | 2               | 1,013                   | 75                    | 17                         |
| Columbus.....             | 16                          | 3                           | 3              | 1              | 1               | 49                      | 1                     | 4                          |
| Toledo.....               | 31                          | 3                           | 1              | 1              | 1               | 75                      | 2                     | 4                          |
| Indiana:                  |                             |                             |                |                |                 |                         |                       |                            |
| Fort Wayne.....           | 1                           | 1                           | 6              | 0              | 0               | 1                       | 0                     | 0                          |
| Indianapolis.....         | 48                          | 3                           | 0              | 0              | 0               | 23                      | 200                   | 12                         |
| South Bend.....           | 2                           | 1                           | 0              | 0              | 0               | 9                       | 0                     | 0                          |
| Terre Haute.....          | 5                           | 0                           | 0              | 0              | 0               | 20                      | 0                     | 1                          |
| Illinois:                 |                             |                             |                |                |                 |                         |                       |                            |
| Chicago.....              | 119                         | 78                          | 24             | 2              | 4               | 628                     | 12                    | 64                         |
| Springfield.....          | 7                           | 0                           | 2              | 0              | 0               | 0                       | 9                     | 1                          |
| Michigan:                 |                             |                             |                |                |                 |                         |                       |                            |
| Detroit.....              | 102                         | 40                          | 13             | 2              | 1               | 947                     | 66                    | 23                         |
| Flint.....                | 11                          | 2                           | 0              | 7              | 0               | 184                     | 49                    | 7                          |
| Grand Rapids.....         | 5                           | 1                           | 0              | 0              | 1               | 94                      | 10                    | 2                          |
| Wisconsin:                |                             |                             |                |                |                 |                         |                       |                            |
| Kenosha.....              | 1                           | 0                           | 0              | 0              | 0               | 183                     | 0                     | 1                          |
| Madison.....              | 1                           | 0                           | 0              | 0              | 0               | 1                       | 1                     | —                          |
| Milwaukee.....            | 79                          | 10                          | 0              | 0              | 0               | 1,604                   | 9                     | 8                          |
| Racine.....               | 13                          | 0                           | 0              | 0              | 0               | 219                     | 22                    | 1                          |
| Superior.....             | 0                           | 0                           | 0              | 0              | 0               | 0                       | 17                    | 0                          |
| WEST NORTH CENTRAL        |                             |                             |                |                |                 |                         |                       |                            |
| Minnesota:                |                             |                             |                |                |                 |                         |                       |                            |
| Duluth.....               | 8                           | 0                           | 0              | 0              | 1               | 0                       | 0                     | 0                          |
| Minneapolis.....          | 33                          | 10                          | 2              | 0              | 0               | 18                      | 35                    | 9                          |
| St. Paul.....             | 13                          | 7                           | 1              | 0              | 0               | 3                       | 34                    | 4                          |
| Iowa:                     |                             |                             |                |                |                 |                         |                       |                            |
| Davenport.....            | 0                           | 0                           | 2              | 0              | 0               | 0                       | 3                     | —                          |
| Des Moines.....           | 0                           | 0                           | 5              | 0              | 0               | 0                       | 0                     | —                          |
| Sioux City.....           | 9                           | 0                           | 0              | 0              | 0               | 0                       | 2                     | —                          |
| Waterloo.....             | 2                           | 0                           | 1              | 0              | 0               | 1                       | 1                     | —                          |
| Missouri:                 |                             |                             |                |                |                 |                         |                       |                            |
| Kansas City.....          | 17                          | 3                           | 4              | 0              | 0               | 24                      | 27                    | 6                          |
| St. Joseph.....           | 1                           | 0                           | 1              | 0              | 0               | 0                       | 1                     | 3                          |
| St. Louis.....            | 36                          | 29                          | 11             | 0              | 0               | 13                      | 12                    | 7                          |
| North Dakota:             |                             |                             |                |                |                 |                         |                       |                            |
| Fargo.....                | 18                          | 0                           | 0              | 0              | 1               | 17                      | 0                     | 0                          |
| Grand Forks.....          | 0                           | 0                           | 0              | 0              | 0               | 14                      | 0                     | —                          |
| South Dakota:             |                             |                             |                |                |                 |                         |                       |                            |
| Aberdeen.....             | 0                           | 0                           | 0              | 0              | 0               | 1                       | 0                     | —                          |
| Nebraska:                 |                             |                             |                |                |                 |                         |                       |                            |
| Omaha.....                | 15                          | 2                           | 9              | 0              | 0               | 2                       | 10                    | 4                          |
| Kansas:                   |                             |                             |                |                |                 |                         |                       |                            |
| Topeka.....               | 34                          | 1                           | 0              | 0              | 0               | 2                       | 2                     | 1                          |
| Wichita.....              | 0                           | 1                           | 0              | 0              | 0               | 54                      | 7                     | 1                          |

## City reports for week ended May 14, 1932—Continued

| Division, State, and city | Chicken<br>pox, cases<br>reported | Diphtheria                             |                   | Influenza         |                    | Measles,<br>cases re-<br>ported | Mumps,<br>cases re-<br>ported | Pneu-<br>monia,<br>deaths<br>reported |
|---------------------------|-----------------------------------|--|-------------------|-------------------|--------------------|---------------------------------|-------------------------------|---------------------------------------|
|                           |                                   | Cases,<br>estimated<br>expect-<br>ancy | Cases<br>reported | Cases<br>reported | Deaths<br>reported |                                 |                               |                                       |
| SOUTH ATLANTIC            |                                   |  |                   |                   |                    |                                 |                               |                                       |
| Delaware:                 |                                   |  |                   |                   |                    |                                 |                               |                                       |
| Wilmington.....           | 2                                 | 1                                      | 0                 | -----             | 0                  | 0                               | 1                             | 0                                     |
| Maryland:                 |                                   |  |                   |                   |                    |                                 |                               |                                       |
| Baltimore.....            | 118                               | 17                                     | 6                 | 4                 | 2                  | 9                               | 115                           | 22                                    |
| Cumberland.....           | 2                                 | 0                                      | 0                 | -----             | 0                  | 46                              | 0                             | 0                                     |
| Frederick.....            | 0                                 | 0                                      | 1                 | -----             | 0                  | 1                               | 0                             | 0                                     |
| District of Columbia:     |                                   |  |                   |                   |                    |                                 |                               |                                       |
| Washington.....           | 44                                | 10                                     | 3                 | -----             | 0                  | 26                              | 0                             | 10                                    |
| Virginia:                 |                                   |  |                   |                   |                    |                                 |                               |                                       |
| Lynchburg.....            | 9                                 | 0                                      | 0                 | -----             | 0                  | 0                               | 0                             | 1                                     |
| Norfolk.....              | 2                                 | 0                                      | 0                 | -----             | 0                  | 3                               | 0                             | 0                                     |
| Richmond.....             | 2                                 | 2                                      | 2                 | -----             | 1                  | 0                               | 0                             | 1                                     |
| Roanoke.....              | 1                                 | 0                                      | 0                 | -----             | 0                  | 0                               | 0                             | 1                                     |
| West Virginia:            |                                   |  |                   |                   |                    |                                 |                               |                                       |
| Charleston.....           | 2                                 | 0                                      | 0                 | -----             | 0                  | 21                              | 0                             | 0                                     |
| Wheeling.....             | 1                                 | 0                                      | 0                 | -----             | 0                  | 29                              | 0                             | 3                                     |
| North Carolina:           |                                   |  |                   |                   |                    |                                 |                               |                                       |
| Raleigh.....              | 1                                 | 1                                      | 1                 | -----             | 0                  | 2                               | 0                             | 3                                     |
| Wilmington.....           | 5                                 | 0                                      | 0                 | -----             | 0                  | 0                               | 0                             | 1                                     |
| Winston-Salem.....        | 5                                 | 0                                      | 0                 | -----             | 0                  | 45                              | 8                             | 0                                     |
| South Carolina:           |                                   |  |                   |                   |                    |                                 |                               |                                       |
| Charleston.....           | 1                                 | 0                                      | 0                 | 46                | 1                  | 0                               | 0                             | 3                                     |
| Columbia.....             | 2                                 | 0                                      | 1                 | -----             | 0                  | 101                             | 0                             | 1                                     |
| Greenville.....           | 0                                 | 0                                      | 0                 | -----             | 0                  | 27                              | 0                             | 0                                     |
| Georgia:                  |                                   |  |                   |                   |                    |                                 |                               |                                       |
| Atlanta.....              | 0                                 | 2                                      | 0                 | 9                 | 0                  | 1                               | 0                             | 10                                    |
| Brunswick.....            | 3                                 | 0                                      | 0                 | -----             | 0                  | 0                               | 0                             | 0                                     |
| Savannah.....             | 6                                 | 0                                      | 0                 | 34                | 0                  | 9                               | 0                             | 5                                     |
| Florida:                  |                                   |  |                   |                   |                    |                                 |                               |                                       |
| Tampa.....                | 3                                 | 1                                      | 1                 | -----             | 0                  | 0                               | 0                             | 0                                     |
| EAST SOUTH CENTRAL        |                                   |  |                   |                   |                    |                                 |                               |                                       |
| Kentucky:                 |                                   |  |                   |                   |                    |                                 |                               |                                       |
| Covington.....            | 0                                 | 1                                      | 0                 | -----             | 0                  | 0                               | 0                             | 0                                     |
| Lexington.....            | 0                                 | -----                                  | 0                 | -----             | 0                  | 0                               | 0                             | 0                                     |
| Tennessee:                |                                   |  |                   |                   |                    |                                 |                               |                                       |
| Memphis.....              | 6                                 | 2                                      | 2                 | -----             | 1                  | -----                           | 0                             | 3                                     |
| Nashville.....            | 6                                 | 1                                      | 1                 | -----             | 3                  | 1                               | 1                             | 1                                     |
| Alabama:                  |                                   |  |                   |                   |                    |                                 |                               |                                       |
| Birmingham.....           | 8                                 | 1                                      | 4                 | 4                 | 2                  | 1                               | 6                             | 5                                     |
| Mobile.....               | 1                                 | 0                                      | 0                 | -----             | 1                  | 0                               | 0                             | 1                                     |
| Montgomery.....           | 0                                 | 0                                      | 0                 | -----             | -----              | 0                               | 25                            | -----                                 |
| WEST SOUTH CENTRAL        |                                   |  |                   |                   |                    |                                 |                               |                                       |
| Arkansas:                 |                                   |  |                   |                   |                    |                                 |                               |                                       |
| Fort Smith.....           | 0                                 | 0                                      | 1                 | -----             | -----              | 0                               | 0                             | -----                                 |
| Little Rock.....          | 0                                 | 0                                      | 3                 | -----             | 0                  | 0                               | 1                             | 1                                     |
| Louisiana:                |                                   |  |                   |                   |                    |                                 |                               |                                       |
| New Orleans.....          | 1                                 | 9                                      | 12                | 1                 | 0                  | 0                               | 0                             | 1                                     |
| Shreveport.....           | 2                                 | 1                                      | 0                 | -----             | 0                  | 6                               | 8                             | 3                                     |
| Texas:                    |                                   |  |                   |                   |                    |                                 |                               |                                       |
| Dallas.....               | 4                                 | 4                                      | 5                 | 1                 | 1                  | -----                           | 0                             | 2                                     |
| Fort Worth.....           | 11                                | 1                                      | 2                 | -----             | 1                  | -----                           | 0                             | 0                                     |
| Galveston.....            | 0                                 | 0                                      | 1                 | -----             | 0                  | 0                               | 0                             | 1                                     |
| Houston.....              | 1                                 | 3                                      | 6                 | -----             | 0                  | 3                               | 0                             | 4                                     |
| San Antonio.....          | 0                                 | 2                                      | 0                 | -----             | 1                  | 0                               | 0                             | 5                                     |
| MOUNTAIN                  |                                   |  |                   |                   |                    |                                 |                               |                                       |
| Montana:                  |                                   |  |                   |                   |                    |                                 |                               |                                       |
| Billings.....             | 0                                 | 0                                      | 0                 | -----             | 0                  | 0                               | 0                             | 0                                     |
| Great Falls.....          | 1                                 | 0                                      | 0                 | -----             | 0                  | 5                               | 0                             | 0                                     |
| Helena.....               | 1                                 | 0                                      | 0                 | -----             | 0                  | 1                               | 0                             | 0                                     |
| Missoula.....             | 0                                 | 0                                      | 0                 | -----             | 0                  | 1                               | 0                             | 1                                     |
| Idaho:                    |                                   |  |                   |                   |                    |                                 |                               |                                       |
| Boise.....                | 0                                 | 0                                      | 0                 | -----             | 0                  | 1                               | 1                             | 0                                     |
| Colorado:                 |                                   |  |                   |                   |                    |                                 |                               |                                       |
| Denver.....               | 45                                | 7                                      | 3                 | -----             | 0                  | 114                             | 58                            | 1                                     |
| Pueblo.....               | 21                                | 0                                      | 0                 | -----             | 1                  | 0                               | 0                             | 4                                     |
| New Mexico:               |                                   |  |                   |                   |                    |                                 |                               |                                       |
| Albuquerque.....          | 6                                 | 0                                      | 2                 | -----             | 1                  | 23                              | 5                             | 1                                     |
| Arizona:                  |                                   |  |                   |                   |                    |                                 |                               |                                       |
| Phoenix.....              | 0                                 | 0                                      | 0                 | -----             | 0                  | 0                               | 0                             | 2                                     |

## City reports for week ended May 14, 1932—Continued

| Division, State, and city | Chicken<br>pox, cases<br>reported | Diphtheria                             |                   | Influenza         |                    | Measles,<br>cases re-<br>ported | Mumps,<br>cases re-<br>ported | Pneu-<br>monia,<br>deaths<br>reported |
|---------------------------|-----------------------------------|--|-------------------|-------------------|--------------------|---------------------------------|-------------------------------|---------------------------------------|
|                           |                                   | Cases,<br>estimated<br>expect-<br>ancy | Cases<br>reported | Cases<br>reported | Deaths<br>reported |                                 |                               |                                       |
| MOUNTAIN—contd.           |                                   |  |                   |                   |                    |                                 |                               |                                       |
| Utah:                     |                                   |  |                   |                   |                    |                                 |                               |                                       |
| Salt Lake City---         | 77                                | 2                                      | 0                 | -----             | 0                  | 2                               | 3                             | 0                                     |
| Nevada:                   |                                   |  |                   |                   |                    |                                 |                               |                                       |
| Reno-----                 | 0                                 | 0                                      | 0                 | -----             | 0                  | 0                               | 0                             | 2                                     |
| PACIFIC                   |                                   |  |                   |                   |                    |                                 |                               |                                       |
| Washington:               |                                   |  |                   |                   |                    |                                 |                               |                                       |
| Seattle-----              | 15                                | 2                                      | 0                 | -----             |                    | 87                              | 11                            | -----                                 |
| Spokane-----              | 13                                | 1                                      | 0                 | -----             |                    | 6                               | 0                             | -----                                 |
| Tacoma-----               | 5                                 | 1                                      | 0                 | -----             | 0                  | 68                              | 5                             | 7                                     |
| Oregon:                   |                                   |  |                   |                   |                    |                                 |                               |                                       |
| Portland-----             | 2                                 | 4                                      | 1                 | -----             | 0                  | 175                             | 2                             | 5                                     |
| Salem-----                | 1                                 | 1                                      | 0                 | 1                 | 0                  | 23                              | 6                             | 0                                     |
| California:               |                                   |  |                   |                   |                    |                                 |                               |                                       |
| Los Angeles-----          | 115                               | 27                                     | 32                | 40                | 3                  | 15                              | 23                            | 6                                     |
| Sacramento-----           | 63                                | 3                                      | 0                 | -----             | 0                  | 17                              | 0                             | 3                                     |
| San Francisco-----        | 76                                | 10                                     | 4                 | 2                 | 0                  | 208                             | 8                             | 7                                     |

| Division, State,<br>and city | Scarlet fever                               |                        | Smallpox                                    |                        |                         | Tuber-<br>culo-<br>sis,<br>deaths<br>re-<br>ported | Typhoid fever                               |                        |                         | Whoop-<br>ing<br>cough,<br>cases<br>re-<br>ported | Deaths,<br>all<br>causes |
|------------------------------|---|------------------------|---|------------------------|-------------------------|--|---|------------------------|-------------------------|---|--------------------------|
|                              | Cases,<br>esti-<br>mated<br>expect-<br>ancy | Cases<br>re-<br>ported | Cases,<br>esti-<br>mated<br>expect-<br>ancy | Cases<br>re-<br>ported | Deaths<br>re-<br>ported |  | Cases,<br>esti-<br>mated<br>expect-<br>ancy | Cases<br>re-<br>ported | Deaths<br>re-<br>ported |   |                          |
| NEW ENGLAND                  |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Maine:                       |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Portland.....                | 3   | 1                      | 0   | 0                      | 0                       | 1  | 1   | 0                      | 0                       | 13  | 18                       |
| New Hampshire:               |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Concord.....                 | 1   | 13                     | 0   | 0                      | 0                       | 0  | 0   | 0                      | 0                       | 0   | 11                       |
| Manchester.....              | 1   | 0                      | 0   | 0                      | 0                       | 1  | 0   | 0                      | 0                       | 0   | 17                       |
| Nashua.....                  | 0   | 2                      | 0   | 0                      | 0                       | 0  | 0   | 0                      | 0                       | 0   | -----                    |
| Vermont:                     |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Barre.....                   | 1   | 0                      | 0   | 0                      | 0                       | 2  | 0   | 0                      | 0                       | 0   | 3                        |
| Burlington.....              | 0   | 0                      | 0   | 1                      | 0                       | 0  | 0   | 0                      | 0                       | 0   | 8                        |
| Massachusetts:               |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Boston.....                  | 75  | 135                    | 0   | 0                      | 0                       | 12   | 1   | 1                      | 0                       | 36  | 202                      |
| Fall River.....              | 5   | 11                     | 0   | 0                      | 0                       | 0  | 0   | 0                      | 0                       | 0   | 30                       |
| Springfield.....             | 10  | 11                     | 0   | 0                      | 0                       | 0  | 0   | 1                      | 0                       | 3   | 30                       |
| Worcester.....               | 11  | 36                     | 0   | 0                      | 0                       | 1  | 0   | 2                      | 2                       | 29  | 53                       |
| Rhode Island:                |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Pawtucket.....               | 3   | 0                      | 0   | 0                      | 0                       | 0  | 0   | 0                      | 0                       | 0   | 13                       |
| Providence.....              | 13  | 30                     | 0   | 0                      | 0                       | 1  | 0   | 0                      | 0                       | 18  | 55                       |
| Connecticut:                 |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Bridgeport.....              | 7   | 7                      | 0   | 0                      | 0                       | 0  | 0   | 0                      | 0                       | 0   | 20                       |
| Hartford.....                | 5   | 5                      | 0   | 0                      | 0                       | 1  | 0   | 1                      | 1                       | 9   | 41                       |
| New Haven.....               | 5   | 21                     | 0   | 0                      | 0                       | 1  | 0   | 0                      | 0                       | 13  | 45                       |
| MIDDLE ATLANTIC              |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| New York:                    |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Buffalo.....                 | 24  | 95                     | 0   | 1                      | 0                       | 6  | 0   | 0                      | 0                       | 36  | 149                      |
| New York.....                | 282   | 977                    | 0   | 0                      | 0                       | 102  | 8   | 7                      | 1                       | 150   | 1,525                    |
| Rochester.....               | 10  | 58                     | 0   | 0                      | 0                       | 2  | 0   | 1                      | 0                       | 4   | 84                       |
| Syracuse.....                | 13  | 38                     | 0   | 0                      | 0                       | 1  | 0   | 0                      | 0                       | 35  | 61                       |
| New Jersey:                  |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Camden.....                  | 5   | 42                     | 0   | 0                      | 0                       | 0  | 0   | 0                      | 0                       | 3   | 31                       |
| Newark.....                  | 28  | 41                     | 0   | 0                      | 0                       | 3  | 0   | 1                      | 0                       | 38  | 83                       |
| Trenton.....                 | 2   | 13                     | 0   | 0                      | 0                       | 1  | 0   | 0                      | 0                       | 2   | 40                       |
| Pennsylvania:                |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Philadelphia.....            | 103   | 235                    | 0   | 0                      | 0                       | 28   | 2   | 1                      | 0                       | 117   | 466                      |
| Pittsburgh.....              | 31  | 81                     | 0   | 0                      | 0                       | 11   | 0   | 0                      | 0                       | 41  | 180                      |
| Reading.....                 | 5   | 22                     | 0   | 0                      | 0                       | 1  | 0   | 0                      | 0                       | 22  | 23                       |
| Scranton.....                | -----                                       | 14                     | -----                                       | 0                      | 0                       | 0  | -----                                       | 0                      | 0                       | 2   | -----                    |



## City reports for week ended May 14, 1932—Continued

| Division, State,<br>and city | Scarlet fever                               |                        | Smallpox                                    |                        |                         | Tuber-<br>culo-<br>sis,<br>deaths<br>re-<br>ported | Typhoid fever                               |                        |                         | Whoop-<br>ing<br>cough,<br>cases<br>re-<br>ported | Deaths,<br>all<br>causes |
|------------------------------|---|------------------------|---|------------------------|-------------------------|--|---|------------------------|-------------------------|---|--------------------------|
|                              | Cases,<br>esti-<br>mated<br>expec-<br>tancy | Cases<br>re-<br>ported | Cases,<br>esti-<br>mated<br>expec-<br>tancy | Cases<br>re-<br>ported | Deaths<br>re-<br>ported |  | Cases,<br>esti-<br>mated<br>expec-<br>tancy | Cases<br>re-<br>ported | Deaths<br>re-<br>ported |   |                          |
| EAST NORTH CENTRAL           |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Ohio:                        |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Cincinnati.....              | 23  | 51                     | 3   | 0                      | 0                       | 9  | 0   | 0                      | 0                       | 12  | 162                      |
| Cleveland.....               | 46  | 82                     | 1   | 0                      | 0                       | 13   | 1   | 1                      | 0                       | 124   | 207                      |
| Columbus.....                | 8   | 1                      | 1   | 6                      | 0                       | 3  | 0   | 0                      | 0                       | 70  | 83                       |
| Toledo.....                  | 11  | 8                      | 0   | 0                      | 0                       | 5  | 0   | 0                      | 0                       | 59  | 50                       |
| Indiana:                     |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Fort Wayne.....              | 5   | 2                      | 0   | 0                      | 0                       | 0  | 0   | 0                      | 0                       | 5   | 23                       |
| Indianapolis.....            | 16  | 5                      | 6   | 0                      | 0                       | 4  | 0   | 0                      | 0                       | 42  | -----                    |
| South Bend.....              | 5   | 2                      | 0   | 0                      | 0                       | 3  | 0   | 0                      | 0                       | 3   | 16                       |
| Terre Haute.....             | 3   | 0                      | 0   | 0                      | 0                       | 1  | 0   | 0                      | 0                       | 0   | 17                       |
| Illinois:                    |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Chicago.....                 | 129   | 199                    | 3   | 0                      | 0                       | 40   | 2   | 2                      | 0                       | 74  | 674                      |
| Springfield.....             | 4   | 1                      | 1   | 1                      | 0                       | 0  | 0   | 1                      | 0                       | 10  | 17                       |
| Michigan:                    |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Detroit.....                 | 120   | 263                    | 1   | 0                      | 0                       | 20   | 1   | 0                      | 0                       | 150   | 258                      |
| Flint.....                   | 12  | 4                      | 2   | 0                      | 0                       | 2  | 0   | 0                      | 0                       | 21  | 23                       |
| Grand Rapids.....            | 12  | 5                      | 1   | 0                      | 0                       | 1  | 0   | 0                      | 0                       | 6   | 29                       |
| Wisconsin:                   |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Kenosha.....                 | 3   | 2                      | 0   | 0                      | 0                       | 0  | 0   | 0                      | 0                       | 0   | 13                       |
| Madison.....                 | 3   | 1                      | 0   | 0                      | -----                   | 0  | 0   | 0                      | -----                   | 30  | -----                    |
| Milwaukee.....               | 30  | 23                     | 1   | 0                      | 0                       | 7  | 0   | 0                      | 0                       | 88  | 113                      |
| Racine.....                  | 2   | 0                      | 0   | 0                      | 0                       | 0  | 0   | 0                      | 0                       | 0   | 10                       |
| Superior.....                | 2   | 2                      | 0   | 0                      | 0                       | 0  | 0   | 0                      | 0                       | 0   | 11                       |
| WEST NORTH CENTRAL           |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Minnesota:                   |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Duluth.....                  | 7   | 3                      | 0   | 0                      | 0                       | 1  | 0   | 1                      | 0                       | 0   | 23                       |
| Minneapolis.....             | 28  | 33                     | 0   | 1                      | 0                       | 1  | 0   | 0                      | 0                       | 15  | 99                       |
| St. Paul.....                | 19  | 18                     | 0   | 0                      | 0                       | 6  | 0   | 3                      | 0                       | 23  | 64                       |
| Iowa:                        |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Davenport.....               | 1   | 9                      | 6   | 0                      | -----                   | -----  | 0   | 0                      | -----                   | 0   | -----                    |
| Des Moines.....              | 6   | 14                     | 2   | 0                      | -----                   | -----  | 0   | 0                      | -----                   | 0   | 30                       |
| Sioux City.....              | 3   | 1                      | 1   | 6                      | -----                   | -----  | 0   | 0                      | -----                   | 2   | -----                    |
| Waterloo.....                | 1   | 0                      | 0   | 0                      | -----                   | -----  | 0   | 0                      | -----                   | 2   | -----                    |
| Missouri:                    |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Kansas City.....             | 17  | 23                     | 0   | 0                      | 0                       | 8  | 0   | 0                      | 0                       | 23  | 98                       |
| St. Joseph.....              | 3   | 1                      | 0   | 0                      | 0                       | 2  | 0   | 0                      | 0                       | 0   | 32                       |
| St. Louis.....               | 61  | 14                     | 2   | 0                      | 0                       | 14   | 0   | 1                      | 0                       | 25  | 222                      |
| North Dakota:                |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Fargo.....                   | 2   | 0                      | 0   | 0                      | 0                       | 0  | 0   | 0                      | 0                       | 0   | 7                        |
| Grand Forks.....             | 1   | 0                      | 0   | 0                      | -----                   | -----  | 0   | 0                      | -----                   | 0   | -----                    |
| South Dakota:                |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Aberdeen.....                | 1   | 0                      | 0   | 0                      | -----                   | -----  | 0   | 0                      | -----                   | 2   | -----                    |
| Nebraska:                    |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Omaha.....                   | 4   | 10                     | 5   | 4                      | 0                       | 3  | 0   | 0                      | 0                       | 2   | 57                       |
| Kansas:                      |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Topeka.....                  | 2   | 0                      | 0   | 0                      | 0                       | 0  | 0   | 0                      | 0                       | 24  | 17                       |
| Wichita.....                 | 4   | 0                      | 1   | 0                      | 0                       | 1  | 0   | 0                      | 0                       | 10  | 27                       |
| SOUTH ATLANTIC               |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Delaware:                    |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Wilmington.....              | 4   | 6                      | 0   | 0                      | 0                       | 0  | 0   | 0                      | 0                       | 2   | 18                       |
| Maryland:                    |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Baltimore.....               | 40  | 53                     | 0   | 0                      | 0                       | 12   | 2   | 0                      | 0                       | 110   | 225                      |
| Cumberland.....              | 0   | 0                      | 0   | 0                      | 0                       | 0  | 0   | 0                      | 0                       | 2   | 10                       |
| Frederick.....               | 0   | 1                      | 0   | 0                      | 0                       | 0  | 0   | 0                      | 0                       | 0   | 2                        |
| District of Columbia:        |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Washington.....              | 23  | 25                     | 0   | 0                      | 0                       | 16   | 0   | 0                      | 0                       | 26  | 155                      |
| Virginia:                    |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Lynchburg.....               | 0   | 10                     | 0   | 0                      | 0                       | 1  | 0   | 0                      | 0                       | 36  | 13                       |
| Norfolk.....                 | 1   | 1                      | 1   | 0                      | 0                       | 1  | 0   | 0                      | 0                       | 25  | 22                       |
| Richmond.....                | 4   | 5                      | 0   | 0                      | 0                       | 3  | 0   | 0                      | 0                       | 0   | 51                       |
| Roanoke.....                 | 0   | 6                      | 1   | 0                      | 0                       | 1  | 0   | 0                      | 0                       | 1   | 20                       |
| West Virginia:               |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Charleston.....              | 0   | 0                      | 0   | 0                      | 0                       | 1  | 0   | 0                      | 0                       | 10  | 7                        |
| Wheeling.....                | 2   | 1                      | 0   | 0                      | 0                       | 1  | 0   | 0                      | 1                       | 13  | 19                       |
| North Carolina:              |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Raleigh.....                 | 0   | 0                      | 1   | 0                      | 0                       | 0  | 0   | 0                      | 0                       | 0   | 13                       |
| Wilmington.....              | 0   | 0                      | 0   | 0                      | 0                       | 0  | 0   | 0                      | 0                       | 20  | 10                       |
| Winston-Salem.....           | 1   | 11                     | 1   | 0                      | 0                       | 2  | 0   | 0                      | 0                       | 21  | 11                       |

## City reports for week ended May 14, 1932—Continued

| Division, State,<br>and city | Scarlet fever                               |                        | Smallpox                                    |                        |                         | Tuber-<br>cul-<br>osis,<br>deaths<br>re-<br>ported | Typhoid fever                               |                        |                         | Whoop-<br>ing<br>cough,<br>cases<br>re-<br>ported | Deaths,<br>all<br>causes |
|------------------------------|---|------------------------|---|------------------------|-------------------------|--|---|------------------------|-------------------------|---|--------------------------|
|                              | Cases,<br>esti-<br>mated<br>expect-<br>ancy | Cases<br>re-<br>ported | Cases,<br>esti-<br>mated<br>expect-<br>ancy | Cases<br>re-<br>ported | Deaths<br>re-<br>ported |  | Cases,<br>esti-<br>mated<br>expect-<br>ancy | Cases<br>re-<br>ported | Deaths<br>re-<br>ported |   |                          |
| SOUTH ATLANTIC—<br>continued |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| South Carolina:              |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Charleston.....              | 0   | 1                      | 1   | 0                      | 0                       | 3  | 0   | 3                      | 0                       | 0   | 21                       |
| Columbia.....                | 0   | 0                      | 0   | 0                      | 0                       | 0  | 0   | 0                      | 0                       | 2   | 4                        |
| Greenville.....              | 1   | 2                      | 1   | 0                      | 0                       | 0  | 0   | 0                      | 0                       | 6   | -----                    |
| Georgia:                     |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Atlanta.....                 | 6   | 3                      | 3   | 0                      | 0                       | 5  | 0   | 0                      | 0                       | 0   | 80                       |
| Brunswick.....               | 0   | 0                      | 0   | 0                      | 0                       | 0  | 0   | 0                      | 0                       | 0   | 4                        |
| Savannah.....                | 0   | 2                      | 0   | 0                      | 0                       | 3  | 1   | 1                      | 0                       | 6   | 30                       |
| Florida:                     |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Tampa.....                   | 0   | 0                      | 0   | 0                      | 0                       | 1  | 0   | 0                      | 0                       | 0   | 33                       |
| EAST SOUTH CEN-<br>TRAL      |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Kentucky:                    |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Covington.....               | 2   | 0                      | 1   | 0                      | 0                       | 1  | 0   | 0                      | 0                       | 0   | 15                       |
| Lexington.....               | -----                                       | 0                      | -----                                       | 0                      | 0                       | 0  | -----                                       | 0                      | 0                       | 0   | 12                       |
| Tennessee:                   |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Memphis.....                 | 9   | 1                      | 1   | 1                      | 0                       | 7  | 1   | 0                      | 0                       | 21  | 83                       |
| Nashville.....               | 2   | 0                      | 0   | 0                      | 0                       | 5  | 1   | 0                      | 0                       | 8   | 42                       |
| Alabama:                     |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Birmingham.....              | 1   | 2                      | 1   | 0                      | 0                       | 6  | 1   | 0                      | 0                       | 24  | 66                       |
| Mobile.....                  | 0   | 0                      | 0   | 1                      | 0                       | 0  | 0   | 0                      | 0                       | 0   | 18                       |
| Montgomery.....              | 0   | 0                      | 0   | 1                      | -----                   | -----  | 0   | 0                      | -----                   | 0   | -----                    |
| WEST SOUTH<br>CENTRAL        |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Arkansas:                    |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Fort Smith.....              | 0   | 0                      | 0   | 0                      | -----                   | -----  | 0   | 0                      | -----                   | 0   | -----                    |
| Little Rock.....             | 0   | 0                      | 0   | 0                      | 0                       | 1  | 0   | 0                      | 0                       | 13  | 3                        |
| Louisiana:                   |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| New Orleans.....             | 11  | 2                      | 0   | 2                      | 0                       | 12   | 2   | 1                      | 1                       | 0   | 131                      |
| Shreveport.....              | 0   | 0                      | 1   | 0                      | 0                       | 1  | 0   | 0                      | 1                       | 6   | 34                       |
| Texas:                       |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Dallas.....                  | 4   | 3                      | 2   | 0                      | 0                       | 2  | 0   | 1                      | 0                       | 19  | 50                       |
| Fort Worth.....              | 3   | 5                      | 4   | 2                      | 0                       | 4  | 0   | 2                      | 0                       | 0   | 27                       |
| Galveston.....               | 0   | 0                      | 1   | 0                      | 0                       | 1  | 1   | 2                      | 1                       | 0   | 16                       |
| Houston.....                 | 1   | 0                      | 2   | 0                      | 0                       | 3  | 0   | 1                      | 0                       | 0   | 68                       |
| San Antonio.....             | 0   | 2                      | 0   | 0                      | 0                       | 2  | 0   | 0                      | 0                       | 0   | 46                       |
| MOUNTAIN                     |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Montana:                     |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Billings.....                | 0   | 0                      | 0   | 0                      | 0                       | 0  | 0   | 0                      | 0                       | 0   | 6                        |
| Great Falls.....             | 1   | 0                      | 0   | 0                      | 0                       | 0  | 0   | 0                      | 0                       | 0   | 6                        |
| Helena.....                  | 0   | 0                      | 0   | 0                      | 0                       | 0  | 0   | 0                      | 0                       | 0   | 3                        |
| Missoula.....                | 0   | 0                      | 0   | 0                      | 0                       | 0  | 0   | 0                      | 0                       | 0   | 10                       |
| Idaho:                       |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Boise.....                   | 0   | 1                      | 0   | 2                      | 0                       | 0  | 0   | 0                      | 0                       | 0   | 7                        |
| Colorado:                    |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Denver.....                  | 13  | 13                     | 1   | 0                      | 0                       | 7  | 0   | 0                      | 0                       | 29  | 70                       |
| Pueblo.....                  | 0   | 0                      | 0   | 0                      | 0                       | 0  | 0   | 1                      | 0                       | 6   | 15                       |
| New Mexico:                  |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Albuquerque.....             | 0   | 0                      | 0   | 0                      | 0                       | 3  | 0   | 0                      | 0                       | 0   | 12                       |
| Arizona:                     |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Phoenix.....                 | 1   | 0                      | 0   | 0                      | 0                       | 2  | 0   | 0                      | 0                       | 0   | -----                    |
| Utah:                        |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Salt Lake City.....          | 3   | 3                      | 0   | 0                      | 0                       | 1  | 0   | 0                      | 0                       | 10  | 25                       |
| Nevada:                      |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Reno.....                    | 0   | 0                      | 0   | 0                      | 0                       | 0  | 0   | 0                      | 0                       | 0   | 7                        |
| PACIFIC                      |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Washington:                  |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Seattle.....                 | 8   | 11                     | 3   | 1                      | -----                   | -----  | 1   | 0                      | -----                   | 5   | -----                    |
| Spokane.....                 | 4   | 1                      | 6   | 0                      | 0                       | 0  | 0   | 0                      | 0                       | 8   | -----                    |
| Tacoma.....                  | 2   | 1                      | 3   | 2                      | 0                       | 0  | 0   | 0                      | 0                       | 0   | 32                       |
| Oregon:                      |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Portland.....                | 5   | 2                      | 8   | 1                      | 0                       | 2  | 0   | 0                      | 0                       | 1   | 62                       |
| Salem.....                   | 0   | 0                      | 0   | 0                      | 0                       | 0  | 0   | 0                      | 0                       | 0   | -----                    |
| California:                  |   |                        |   |                        |                         |  |   |                        |                         |   |                          |
| Los Angeles.....             | 32  | 53                     | 7   | 2                      | 0                       | 22   | 0   | 0                      | 0                       | 71  | 263                      |
| Sacramento.....              | 2   | 2                      | 0   | 0                      | 0                       | 0  | 0   | 1                      | 0                       | 5   | 54                       |
| San Francisco.....           | 21  | 3                      | 1   | 1                      | 0                       | 8  | 1   | 1                      | 0                       | 11  | 140                      |

## City reports for week ended May 14, 1932—Continued

| Division, State, and city   | Meningo-<br>coccus<br>meningitis |        | Lethargic en-<br>cephalitis |        | Pellagra |        | Poliomyelitis (infan-<br>tile paralysis)    |       |        |
|-----------------------------|----------------------------------|--------|-----------------------------|--------|----------|--------|---|-------|--------|
|                             | Cases                            | Deaths | Cases                       | Deaths | Cases    | Deaths | Cases,<br>esti-<br>mated<br>expect-<br>ancy | Cases | Deaths |
| <b>NEW ENGLAND</b>          |                                  |        |                             |        |          |        |   |       |        |
| Connecticut:                |                                  |        |                             |        |          |        |   |       |        |
| New Haven.....              | 1                                | 0      | 0                           | 0      | 0        | 0      | 0   | 0     | 0      |
| <b>MIDDLE ATLANTIC</b>      |                                  |        |                             |        |          |        |   |       |        |
| New York:                   |                                  |        |                             |        |          |        |   |       |        |
| New York <sup>1</sup> ..... | 4                                | 1      | 1                           | 2      | 0        | 0      | 2   | 1     | 0      |
| Pennsylvania:               |                                  |        |                             |        |          |        |   |       |        |
| Philadelphia.....           | 2                                | 0      | 0                           | 0      | 0        | 0      | 0   | 0     | 0      |
| Pittsburgh.....             | 3                                | 1      | 0                           | 0      | 0        | 0      | 0   | 0     | 0      |
| <b>EAST NORTH CENTRAL</b>   |                                  |        |                             |        |          |        |   |       |        |
| Ohio:                       |                                  |        |                             |        |          |        |   |       |        |
| Cincinnati.....             | 0                                | 0      | 0                           | 0      | 0        | 0      | 0   | 1     | 0      |
| Indiana:                    |                                  |        |                             |        |          |        |   |       |        |
| Indianapolis.....           | 7                                | 2      | 0                           | 0      | 0        | 0      | 0   | 0     | 0      |
| Illinois:                   |                                  |        |                             |        |          |        |   |       |        |
| Chicago.....                | 5                                | 3      | 1                           | 0      | 0        | 0      | 0   | 1     | 0      |
| Springfield.....            | 0                                | 2      | 0                           | 0      | 0        | 0      | 0   | 0     | 0      |
| Michigan:                   |                                  |        |                             |        |          |        |   |       |        |
| Detroit.....                | 1                                | 0      | 1                           | 0      | 0        | 0      | 0   | 0     | 0      |
| Grand Rapids.....           | 1                                | 0      | 0                           | 0      | 0        | 0      | 0   | 0     | 0      |
| Wisconsin:                  |                                  |        |                             |        |          |        |   |       |        |
| Milwaukee.....              | 0                                | 0      | 1                           | 0      | 0        | 0      | 0   | 0     | 0      |
| <b>WEST NORTH CENTRAL</b>   |                                  |        |                             |        |          |        |   |       |        |
| Minnesota:                  |                                  |        |                             |        |          |        |   |       |        |
| Minneapolis.....            | 0                                | 0      | 1                           | 0      | 0        | 0      | 0   | 0     | 0      |
| Iowa:                       |                                  |        |                             |        |          |        |   |       |        |
| Des Moines.....             | 1                                | 0      | 0                           | 0      | 0        | 0      | 0   | 0     | 0      |
| Missouri:                   |                                  |        |                             |        |          |        |   |       |        |
| Kansas City.....            | 1                                | 1      | 0                           | 0      | 0        | 0      | 0   | 0     | 0      |
| St. Joseph.....             | 0                                | 1      | 0                           | 0      | 0        | 0      | 0   | 0     | 0      |
| St. Louis.....              | 1                                | 0      | 0                           | 0      | 0        | 0      | 0   | 0     | 0      |
| <b>SOUTH ATLANTIC</b>       |                                  |        |                             |        |          |        |   |       |        |
| Maryland:                   |                                  |        |                             |        |          |        |   |       |        |
| Baltimore.....              | 1                                | 0      | 0                           | 0      | 0        | 0      | 0   | 0     | 0      |
| District of Columbia:       |                                  |        |                             |        |          |        |   |       |        |
| Washington.....             | 2                                | 1      | 0                           | 0      | 0        | 0      | 0   | 0     | 0      |
| Virginia:                   |                                  |        |                             |        |          |        |   |       |        |
| Roanoke.....                | 0                                | 0      | 0                           | 0      | 0        | 1      | 0   | 0     | 0      |
| North Carolina:             |                                  |        |                             |        |          |        |   |       |        |
| Winston-Salem.....          | 0                                | 0      | 0                           | 0      | 1        | 1      | 0   | 0     | 0      |
| South Carolina:             |                                  |        |                             |        |          |        |   |       |        |
| Charleston.....             | 0                                | 0      | 0                           | 0      | 3        | 0      | 0   | 0     | 0      |
| Georgia:                    |                                  |        |                             |        |          |        |   |       |        |
| Atlanta.....                | 1                                | 0      | 0                           | 0      | 0        | 0      | 0   | 0     | 0      |
| Savannah.....               | 0                                | 0      | 0                           | 0      | 1        | 0      | 0   | 0     | 0      |
| <b>EAST SOUTH CENTRAL</b>   |                                  |        |                             |        |          |        |   |       |        |
| Tennessee:                  |                                  |        |                             |        |          |        |   |       |        |
| Memphis.....                | 1                                | 0      | 0                           | 0      | 0        | 0      | 0   | 0     | 0      |
| Alabama:                    |                                  |        |                             |        |          |        |   |       |        |
| Mobile.....                 | 0                                | 0      | 0                           | 0      | 1        | 1      | 0   | 0     | 0      |
| <b>WEST SOUTH CENTRAL</b>   |                                  |        |                             |        |          |        |   |       |        |
| Arkansas:                   |                                  |        |                             |        |          |        |   |       |        |
| Fort Smith.....             | 1                                | 0      | 0                           | 0      | 0        | 0      | 0   | 0     | 0      |
| Louisiana:                  |                                  |        |                             |        |          |        |   |       |        |
| New Orleans.....            | 1                                | 1      | 0                           | 0      | 3        | 3      | 0   | 0     | 0      |
| Shreveport.....             | 0                                | 0      | 0                           | 0      | 0        | 2      | 0   | 0     | 0      |
| Montana: <b>MOUNTAIN</b>    |                                  |        |                             |        |          |        |   |       |        |
| Missoula.....               | 1                                | 1      | 0                           | 0      | 0        | 0      | 0   | 0     | 0      |
| Oregon: <b>PACIFIC</b>      |                                  |        |                             |        |          |        |   |       |        |
| Portland.....               | 0                                | 1      | 0                           | 0      | 0        | 0      | 0   | 0     | 0      |
| California:                 |                                  |        |                             |        |          |        |   |       |        |
| Los Angeles.....            | 0                                | 1      | 0                           | 0      | 0        | 0      | 1   | 2     | 0      |
| Sacramento.....             | 0                                | 0      | 0                           | 0      | 1        | 1      | 0   | 0     | 0      |
| San Francisco.....          | 2                                | 0      | 0                           | 0      | 0        | 0      | 0   | 0     | 0      |

<sup>1</sup> Typhus fever, 1 case in New York City, N. Y.

The following table gives the rates per 100,000 population for 98 cities for the 5-week period ended May 14, 1932, compared with those for a like period ended May 16, 1931. The population figures used in computing the rates are estimated mid-year populations for 1931 and 1932, respectively, derived from the 1930 census. The 98 cities reporting cases have an estimated aggregate population of more than 34,000,000. The 91 cities reporting deaths have more than 32,400,000 estimated population.

*Summary of weekly reports from cities, April 10 to May 14, 1932—Annual rates per 100,000 population, compared with rates for the corresponding period of 1931*<sup>1</sup>

## DIPHTHERIA CASE RATES

|                         | Week ended—         |                     |                     |                     |                     |                   |                   |                   |                    |                    |
|-------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|-------------------|-------------------|-------------------|--------------------|--------------------|
|                         | Apr.<br>16,<br>1932 | Apr.<br>18,<br>1931 | Apr.<br>28,<br>1932 | Apr.<br>28,<br>1931 | Apr.<br>30,<br>1932 | May<br>2,<br>1931 | May<br>7,<br>1932 | May<br>9,<br>1931 | May<br>14,<br>1932 | May<br>16,<br>1931 |
| 98 cities.....          | 54                  | 66                  | 51                  | 53                  | <sup>1</sup> 43     | 63                | <sup>1</sup> 44   | <sup>1</sup> 67   | 44                 | 63                 |
| New England.....        | 29                  | 79                  | 36                  | 58                  | <sup>1</sup> 21     | 36                | 34                | 38                | 48                 | 28                 |
| Middle Atlantic.....    | 49                  | 62                  | 55                  | 46                  | 52                  | 61                | 48                | 61                | 42                 | 58                 |
| East North Central..... | 44                  | 83                  | 41                  | 58                  | 33                  | 84                | <sup>1</sup> 34   | 82                | 32                 | 72                 |
| West North Central..... | 49                  | 63                  | 57                  | 67                  | <sup>1</sup> 56     | 57                | 53                | 71                | 55                 | 71                 |
| South Atlantic.....     | 49                  | 65                  | 39                  | 51                  | 43                  | 69                | <sup>1</sup> 47   | 63                | 29                 | 56                 |
| East South Central..... | 17                  | 23                  | 17                  | 23                  | <sup>1</sup> 19     | 6                 | 46                | 41                | 40                 | 18                 |
| West South Central..... | 119                 | 74                  | 102                 | 71                  | 79                  | 68                | 89                | 108               | 92                 | 81                 |
| Mountain.....           | 60                  | 17                  | 86                  | 26                  | <sup>10</sup> 35    | 26                | <sup>1</sup> 9    | <sup>1</sup> 27   | 26                 | 61                 |
| Pacific.....            | 110                 | 43                  | 59                  | 63                  | <sup>11</sup> 15    | 53                | <sup>11</sup> 23  | 61                | 69                 | 74                 |

## MEASLES CASE RATES

|                         |       |       |       |       |                    |       |                    |                    |       |       |
|-------------------------|-------|-------|-------|-------|--------------------|-------|--------------------|--------------------|-------|-------|
| 98 cities.....          | 962   | 1,316 | 1,107 | 1,342 | <sup>1</sup> 1,200 | 1,250 | <sup>1</sup> 1,286 | <sup>1</sup> 1,305 | 1,157 | 1,403 |
| New England.....        | 765   | 1,349 | 851   | 1,286 | <sup>1</sup> 1,318 | 964   | 1,002              | 1,063              | 1,196 | 1,166 |
| Middle Atlantic.....    | 554   | 1,544 | 579   | 1,419 | 456                | 1,411 | 478                | 1,434              | 487   | 1,486 |
| East North Central..... | 2,160 | 789   | 2,680 | 1,073 | 2,821              | 896   | <sup>1</sup> 3,406 | 1,101              | 2,962 | 1,311 |
| West North Central..... | 724   | 589   | 491   | 830   | <sup>1</sup> 421   | 777   | 243                | 1,016              | 254   | 1,397 |
| South Atlantic.....     | 298   | 4,350 | 339   | 4,055 | 663                | 3,877 | <sup>1</sup> 444   | 3,559              | 569   | 3,371 |
| East South Central..... | 0     | 1,627 | 12    | 1,615 | <sup>1</sup> 6     | 1,439 | 0                  | 1,275              | 12    | 1,245 |
| West South Central..... | 30    | 102   | 26    | 139   | 43                 | 156   | 40                 | 152                | 30    | 166   |
| Mountain.....           | 1,336 | 922   | 1,043 | 661   | <sup>10</sup> 106  | 661   | <sup>1</sup> 833   | <sup>1</sup> 555   | 1,069 | 531   |
| Pacific.....            | 952   | 417   | 916   | 517   | <sup>11</sup> 713  | 506   | <sup>11</sup> 759  | 502                | 763   | 555   |

## SCARLET FEVER CASE RATES

|                         |     |     |     |                 |                  |     |                  |                  |     |     |
|-------------------------|-----|-----|-----|-----------------|------------------|-----|------------------|------------------|-----|-----|
| 98 cities.....          | 477 | 382 | 455 | 406             | <sup>1</sup> 513 | 372 | <sup>1</sup> 458 | <sup>1</sup> 390 | 437 | 389 |
| New England.....        | 796 | 584 | 678 | 575             | <sup>1</sup> 971 | 582 | 678              | 630              | 647 | 666 |
| Middle Atlantic.....    | 744 | 415 | 721 | 488             | 750              | 409 | 706              | 448              | 709 | 439 |
| East North Central..... | 399 | 382 | 369 | 431             | 436              | 402 | <sup>1</sup> 405 | 438              | 385 | 453 |
| West North Central..... | 267 | 518 | 252 | 469             | <sup>1</sup> 226 | 480 | 182              | 440              | 195 | 383 |
| South Atlantic.....     | 310 | 307 | 314 | 305             | 359              | 273 | <sup>1</sup> 273 | 277              | 243 | 243 |
| East South Central..... | 40  | 87  | 399 | <sup>1</sup> 50 | 411              | 52  | 253              | 17               | 341 |     |
| West South Central..... | 56  | 112 | 46  | 98              | 43               | 132 | 43               | 105              | 23  | 108 |
| Mountain.....           | 207 | 278 | 190 | 191             | <sup>10</sup> 89 | 191 | <sup>1</sup> 160 | <sup>1</sup> 170 | 147 | 157 |
| Pacific.....            | 148 | 116 | 171 | 86              | <sup>11</sup> 77 | 94  | <sup>11</sup> 80 | 106              | 135 | 123 |

## SMALLPOX CASE RATES

|                         |    |    |     |    |                  |     |                  |                 |    |    |
|-------------------------|----|----|-----|----|------------------|-----|------------------|-----------------|----|----|
| 98 cities.....          | 7  | 22 | 8   | 21 | <sup>1</sup> 5   | 23  | <sup>1</sup> 7   | <sup>1</sup> 15 | 5  | 17 |
| New England.....        | 0  | 0  | 0   | 0  | <sup>1</sup> 0   | 0   | 0                | 0               | 0  | 0  |
| Middle Atlantic.....    | 0  | 2  | 0   | 1  | 0                | 1   | 0                | 3               | 0  | 1  |
| East North Central..... | 6  | 19 | 2   | 20 | 3                | 10  | <sup>1</sup> 0   | 6               | 4  | 23 |
| West North Central..... | 13 | 92 | 15  | 71 | <sup>1</sup> 9   | 115 | 13               | 78              | 21 | 75 |
| South Atlantic.....     | 0  | 10 | 0   | 6  | 0                | 6   | <sup>1</sup> 0   | 8               | 0  | 6  |
| East South Central..... | 46 | 53 | 110 | 35 | <sup>1</sup> 62  | 59  | 64               | 41              | 17 | 12 |
| West South Central..... | 7  | 95 | 3   | 98 | 0                | 102 | 7                | 64              | 7  | 41 |
| Mountain.....           | 17 | 9  | 86  | 17 | <sup>10</sup> 0  | 0   | <sup>1</sup> 142 | <sup>1</sup> 9  | 17 | 17 |
| Pacific.....            | 27 | 27 | 23  | 41 | <sup>11</sup> 31 | 51  | <sup>11</sup> 19 | 12              | 11 | 26 |

See footnotes at end of table.

Summary of weekly reports from cities, April 10 to May 14, 1932—Annual rates per 100,000 population, compared with rates for the corresponding period of 1931<sup>1</sup>—Continued

## TYPHOID FEVER CASE RATES

|                         | Week ended—   |               |               |               |                  |             |                 |                |              |              |
|-------------------------|---------------|---------------|---------------|---------------|------------------|-------------|-----------------|----------------|--------------|--------------|
|                         | Apr. 16, 1932 | Apr. 18, 1931 | Apr. 23, 1932 | Apr. 25, 1931 | Apr. 30, 1932    | May 2, 1931 | May 7, 1932     | May 9, 1931    | May 14, 1932 | May 16, 1931 |
| 98 cities.....          | 5             | 5             | 5             | 3             | <sup>1</sup> 7   | 6           | <sup>1</sup> 5  | <sup>1</sup> 5 | 6            | 5            |
| New England.....        | 0             | 2             | 0             | 2             | <sup>1</sup> 12  | 7           | 0               | 5              | 12           | 5            |
| Middle Atlantic.....    | 2             | 4             | 5             | 4             | 5                | 7           | 6               | 5              | 4            | 5            |
| East North Central..... | 4             | 2             | 1             | 2             | 3                | 4           | <sup>1</sup> 2  | 2              | 2            | 2            |
| West North Central..... | 2             | 4             | 2             | 4             | <sup>1</sup> 5   | 4           | 0               | 2              | 9            | 6            |
| South Atlantic.....     | 12            | 8             | 12            | 2             | 18               | 14          | <sup>1</sup> 10 | 8              | 8            | 12           |
| East South Central..... | 35            | 12            | 6             | 6             | <sup>1</sup> 12  | 12          | 17              | 6              | 0            | 18           |
| West South Central..... | 10            | 7             | 23            | 0             | 26               | 0           | 10              | 7              | 16           | 7            |
| Mountain.....           | 9             | 9             | 9             | 9             | <sup>10</sup> 0  | 0           | <sup>1</sup> 0  | <sup>1</sup> 0 | 9            | 0            |
| Pacific.....            | 6             | 10            | 6             | 4             | <sup>11</sup> 11 | 6           | <sup>11</sup> 0 | 8              | 4            | 0            |

## INFLUENZA DEATH RATES

|                         | 20 | 17 | 18 | 13 | <sup>1</sup> 14  | 11 | <sup>1</sup> 9  | <sup>1</sup> 12 | 9  | 8  |
|-------------------------|----|----|----|----|------------------|----|-----------------|-----------------|----|----|
| 91 cities.....          |    |    |    |    |                  |    |                 |                 |    |    |
| New England.....        | 7  | 7  | 12 | 7  | <sup>1</sup> 9   | 7  | 2               | 5               | 7  | 2  |
| Middle Atlantic.....    | 23 | 12 | 18 | 12 | 8                | 12 | 8               | 11              | 9  | 7  |
| East North Central..... | 20 | 10 | 13 | 6  | 13               | 5  | <sup>1</sup> 5  | 11              | 8  | 5  |
| West North Central..... | 20 | 29 | 20 | 18 | <sup>1</sup> 16  | 12 | 12              | 6               | 6  | 9  |
| South Atlantic.....     | 29 | 32 | 29 | 10 | 27               | 20 | <sup>1</sup> 18 | 22              | 8  | 16 |
| East South Central..... | 38 | 76 | 38 | 45 | <sup>1</sup> 14  | 19 | 50              | 51              | 44 | 51 |
| West South Central..... | 20 | 45 | 30 | 55 | 40               | 38 | 10              | 14              | 7  | 7  |
| Mountain.....           | 9  | 17 | 9  | 17 | <sup>10</sup> 26 | 26 | <sup>1</sup> 35 | <sup>1</sup> 27 | 9  | 9  |
| Pacific.....            | 5  | 10 | 9  | 5  | <sup>11</sup> 6  | 2  | <sup>11</sup> 0 | 7               | 7  | 7  |

## PNEUMONIA DEATH RATES

|                         | 124 | 161 | 107 | 138 | <sup>1</sup> 107 | 122 | <sup>2</sup> 109 | <sup>1</sup> 117 | 103 | 102 |
|-------------------------|-----|-----|-----|-----|------------------|-----|------------------|------------------|-----|-----|
| 91 cities.....          |     |     |     |     |                  |     |                  |                  |     |     |
| New England.....        | 129 | 144 | 146 | 132 | <sup>1</sup> 187 | 154 | 129              | 130              | 98  | 113 |
| Middle Atlantic.....    | 162 | 180 | 128 | 165 | 110              | 141 | 120              | 144              | 130 | 121 |
| East North Central..... | 74  | 127 | 72  | 98  | 78               | 76  | <sup>1</sup> 88  | 87               | 91  | 73  |
| West North Central..... | 143 | 245 | 143 | 230 | <sup>1</sup> 130 | 180 | 70               | 121              | 102 | 109 |
| South Atlantic.....     | 167 | 188 | 118 | 168 | 141              | 180 | <sup>1</sup> 128 | 131              | 120 | 127 |
| East South Central..... | 194 | 293 | 113 | 127 | <sup>1</sup> 150 | 121 | 75               | 121              | 63  | 127 |
| West South Central..... | 91  | 173 | 101 | 145 | 87               | 152 | 128              | 114              | 57  | 114 |
| Mountain.....           | 86  | 113 | 112 | 104 | <sup>10</sup> 71 | 61  | <sup>1</sup> 89  | <sup>1</sup> 98  | 69  | 78  |
| Pacific.....            | 56  | 67  | 51  | 46  | <sup>11</sup> 54 | 46  | <sup>11</sup> 84 | 70               | 53  | 55  |

<sup>1</sup> The figures given in this table are rates per 100,000 population, annual basis, and not the number of cases reported. Populations used are estimated as of July 1, 1932 and 1931, respectively.

<sup>2</sup> Newark, N. J., Kansas City, Mo., Fargo, N. Dak., Topeka, Kans., Covington, Ky., Billings, Mont., Denver, Colo., and Los Angeles, Calif., not included.

<sup>3</sup> Columbus, Ohio, Savannah, Ga., Billings, Mont., and Los Angeles, Calif., not included.

<sup>4</sup> Billings, Mont., not included.

<sup>5</sup> Newark, N. J., not included.

<sup>6</sup> Columbus, Ohio, not included.

<sup>7</sup> Kansas City, Mo., Fargo, N. Dak., and Topeka, Kans., not included.

<sup>8</sup> Savannah, Ga., not included.

<sup>9</sup> Covington, Ky., not included.

<sup>10</sup> Billings, Mont., and Denver, Colo., not included.

<sup>11</sup> Los Angeles, Calif., not included.

# FOREIGN AND INSULAR

## CANADA

*Provinces—Communicable diseases—Week ended May 7, 1932.*—The Department of Pensions and National Health of Canada reports cases of certain communicable diseases for the week ended May 7, 1932, as follows:

| Province                          | Cerebro-spinal fever | Influenza | Polio-myelitis | Smallpox | Typhoid fever |
|-----------------------------------|----------------------|-----------|----------------|----------|---------------|
| Prince Edward Island <sup>1</sup> |                      |           |                |          |               |
| Nova Scotia                       |                      | 3         |                |          |               |
| New Brunswick <sup>1</sup>        |                      |           |                |          |               |
| Quebec                            |                      |           |                |          | 8             |
| Ontario                           | 1                    | 18        |                | 1        | 3             |
| Manitoba                          |                      |           |                |          | 1             |
| Saskatchewan                      |                      |           | 2              | 3        | 4             |
| Alberta                           |                      |           |                |          | 1             |
| British Columbia                  | 1                    |           |                |          | 1             |
| Total                             | 2                    | 21        | 2              | 4        | 18            |

<sup>1</sup> No case of any disease included in the table was reported during the week.

*Ontario—Communicable diseases—Comparative—Five weeks ended April 30, 1932.*—The Department of Health of the Province of Ontario, Canada, reports certain communicable diseases for the five weeks ended April 30, 1932, and the corresponding period in 1931, as follows:

| Disease                  | 1932  |        | 1931  |        |
|--------------------------|-------|--------|-------|--------|
|                          | Cases | Deaths | Cases | Deaths |
| Cerebrospinal meningitis | 9     | 7      | 4     |        |
| Chancroid                | 3     |        |       |        |
| Chicken pox              | 604   |        | 696   |        |
| Conjunctivitis           | 4     |        |       |        |
| Diphtheria               | 129   | 8      | 118   | 7      |
| Erysipelas               | 21    | 2      | 5     |        |
| German measles           | 37    |        | 67    |        |
| Influenza                | 835   | 58     | 66    | 4      |
| Jaundice                 | 5     |        |       |        |
| Lethargic encephalitis   | 3     | 1      |       | 1      |
| Measles                  | 3,529 | 4      | 228   |        |
| Mumps                    | 1,422 |        | 398   |        |
| Paratyphoid fever        |       |        | 2     |        |
| Pneumonia                |       | 288    |       | 149    |
| Polio-myelitis           | 2     |        |       |        |
| Scarlet fever            | 412   | 4      | 502   |        |
| Septic sore throat       | 7     | 2      | 5     |        |
| Smallpox                 | 9     |        | 12    |        |
| Syphilis                 | 216   | 1      | 142   | 2      |
| Trachoma                 |       |        | 1     |        |
| Trench mouth             | 1     |        |       |        |
| Tuberculosis             | 352   | 91     | 109   | 52     |
| Typhoid fever            | 21    | 1      | 24    | 2      |
| Undulant fever           | 5     |        | 9     |        |
| Whooping cough           | 596   | 2      | 319   | 2      |

*Quebec Province—Communicable diseases—Week ended May 7, 1932.*—The Bureau of Health of the Province of Quebec, Canada, reports cases of certain communicable diseases for the week ended May 7, 1932, as follows:

| Disease                    | Cases | Disease             | Cases |
|----------------------------|-------|---------------------|-------|
| Chicken pox.....           | 19    | Tuberculosis.....   | 69    |
| Diphtheria.....            | 13    | Scarlet fever.....  | 71    |
| Erysipelas.....            | 6     | Typhoid fever.....  | 8     |
| German measles.....        | 6     | Undulant fever..... | 1     |
| Measles.....               | 214   | Whooping cough..... | 46    |
| Ophthalmia neonatorum..... | 1     |                     |       |

### LATVIA

*Communicable diseases—March, 1932.*—During the month of March, 1932, cases of certain communicable diseases were reported in Latvia, as follows:

| Disease                       | Cases | Disease              | Cases |
|-------------------------------|-------|----------------------|-------|
| Cerebrospinal meningitis..... | 2     | Puerperal fever..... | 16    |
| Diphtheria.....               | 62    | Scarlet fever.....   | 51    |
| Erysipelas.....               | 31    | Scurvy.....          | 2     |
| Influenza.....                | 1,463 | Tetanus.....         | 1     |
| Measles.....                  | 52    | Trachoma.....        | 110   |
| Mumps.....                    | 220   | Typhoid fever.....   | 29    |
| Paratyphoid fever.....        | 3     | Whooping cough.....  | 192   |
| Poliomyelitis.....            | 3     |                      |       |

### YUGOSLAVIA

*Communicable diseases—April, 1932.*—During the month of April, 1932, certain communicable diseases were reported in Yugoslavia as follows:

| Disease                       | Cases | Deaths | Disease            | Cases | Deaths |
|-------------------------------|-------|--------|--------------------|-------|--------|
| Anthrax.....                  | 22    | 1      | Poliomyelitis..... | 2     | 1      |
| Cerebrospinal meningitis..... | 13    | 4      | Rabies.....        | 1     | 1      |
| Diphtheria.....               | 447   | 66     | Scarlet fever..... | 297   | 25     |
| Dysentery.....                | 23    | —      | Sepsis.....        | 17    | 7      |
| Erysipelas.....               | 156   | 5      | Tetanus.....       | 13    | 6      |
| Measles.....                  | 869   | 20     | Typhoid fever..... | 126   | 17     |
| Paratyphoid fever.....        | 3     | —      | Typhus fever.....  | 29    | —      |







## CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

## CHOLERA—Continued

[C indicates cases; D, deaths; P, Present]

| Place                                       | Octo-<br>ber,<br>1931 | No-<br>vem-<br>ber,<br>1931 | De-<br>cem-<br>ber,<br>1931 | Janu-<br>ary,<br>1932 | February, 1932 |       |       | March, 1932 |       |       | April, 1932 |       |       |
|---|-----------------------|-----------------------------|-----------------------------|-----------------------|----------------|-------|-------|-------------|-------|-------|-------------|-------|-------|
|   |                       |                             |                             |                       | 1-10           | 11-20 | 21-29 | 1-10        | 11-20 | 21-31 | 1-10        | 11-20 | 21-30 |
| Indo-China (French) (see also table above): |                       |                             |                             |                       |                |       |       |             |       |       |             |       |       |
| Annam <sup>1</sup> .....                    |                       |                             |                             |                       | 4              |       |       |             |       |       |             |       |       |
| C.....                                      |                       |                             |                             |                       | 4              |       |       |             |       |       |             |       |       |
| D.....                                      |                       |                             |                             |                       | 4              |       |       |             |       |       |             |       |       |
| Cambodia <sup>1</sup> .....                 | 19                    | 4                           | 3                           | 12                    | 3              |       |       | 6           | 1     | 1     | 4           | 1     | 20    |
| C.....                                      | 18                    |                             | 2                           | 6                     | 3              |       |       | 3           |       | 1     | 3           |       | 8     |
| D.....                                      | 14                    | 6                           | 14                          | 5                     | 7              |       |       | 3           | 2     | 1     | 3           | 6     | 18    |
| Cochin-China <sup>1</sup> .....             | 13                    | 4                           | 7                           | 4                     | 5              |       |       | 2           | 2     | 2     | 2           | 3     | 13    |
| C.....                                      |                       |                             |                             |                       |                |       |       |             |       |       |             |       |       |
| D.....                                      |                       |                             |                             |                       |                |       |       |             |       |       |             |       |       |
| Laos <sup>1</sup> .....                     |                       |                             |                             |                       |                |       |       |             |       |       |             |       |       |
| C.....                                      |                       |                             |                             |                       |                |       |       |             |       |       |             |       |       |
| D.....                                      |                       |                             |                             |                       |                |       |       |             |       |       |             |       |       |

<sup>1</sup> Reports incomplete.



# CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

## PLAGUE—Continued

[C indicates cases; D, deaths; P, present]

| Place  | Oct.<br>13-<br>Nov.<br>14,<br>1931 | Nov.<br>15-<br>Dec.<br>12,<br>1931 | Dec.<br>13-<br>Jan.<br>9,<br>1932 | Jan.<br>10-<br>Feb.<br>6,<br>1932 | Week ended—    |    |    |   |    |             |    |   |   |    |             |    |  | May<br>7<br>1932 |   |
|--|------------------------------------|------------------------------------|-----------------------------------|-----------------------------------|----------------|----|----|---|----|-------------|----|---|---|----|-------------|----|--|------------------|---|
|  |                                    |                                    |                                   |                                   | February, 1932 |    |    |   |    | March, 1932 |    |   |   |    | April, 1932 |    |  |                  |   |
|  |                                    |                                    |                                   |                                   | 13             | 20 | 27 | 5 | 12 | 19          | 26 | 2 | 9 | 16 | 23          | 30 |  |                  |   |
|  |                                    |                                    |                                   |                                   |                |    |    |   |    |             |    |   |   |    |             |    |  |                  |   |
| Ecuador (see table below).                       |                                    |                                    |                                   |                                   |                |    |    |   |    |             |    |   |   |    |             |    |  |                  |   |
| Egypt:   |                                    |                                    |                                   |                                   |                |    |    |   |    |             |    |   |   |    |             |    |  |                  |   |
| Alexandria.....                                  | 6                                  | 3                                  | 2                                 | 2                                 |                |    |    |   |    |             |    |   |   |    |             |    |  |                  | 1 |
| Assiout.....                                     | 2                                  | 3                                  |                                   |                                   |                |    |    |   |    |             |    |   |   |    |             |    |  |                  |   |
| Behelra.....                                     |                                    | 1                                  | 2                                 | 1                                 |                |    |    |   |    |             |    |   |   |    |             |    |  |                  |   |
| Beni Suef.....                                   |                                    |                                    |                                   | 11                                |                |    |    |   |    |             |    |   |   |    |             |    |  |                  | 1 |
|  |                                    |                                    |                                   | 2                                 |                |    |    |   |    |             |    |   |   |    |             |    |  |                  |   |
| Girga.....                                       |                                    |                                    |                                   |                                   |                |    |    |   |    |             |    |   |   |    |             |    |  |                  |   |
|  |                                    | 2                                  | 1                                 |                                   |                |    |    |   |    |             |    |   |   |    |             |    |  |                  |   |
| Kena.....  |                                    | 2                                  | 1                                 |                                   |                |    |    |   |    |             |    |   |   |    |             |    |  |                  |   |
|  |                                    | 4                                  | 2                                 |                                   |                |    |    |   |    |             |    |   |   |    |             |    |  |                  |   |
| Minieh.....                                      |                                    | 3                                  | 2                                 |                                   |                |    |    |   |    |             |    |   |   |    |             |    |  |                  |   |
|  | 4                                  | 2                                  | 7                                 | 1                                 |                |    |    |   |    |             |    |   |   |    |             |    |  |                  |   |
| Port Said.....                                   |                                    | 2                                  | 1                                 |                                   |                |    |    |   |    |             |    |   |   |    |             |    |  |                  |   |
|  | 2                                  | 4                                  | 1                                 |                                   |                |    |    |   |    |             |    |   |   |    |             |    |  |                  |   |
| Tanta.....                                       |                                    | 2                                  | 1                                 |                                   |                |    |    |   |    |             |    |   |   |    |             |    |  |                  |   |
|  |                                    | 2                                  | 1                                 |                                   |                |    |    |   |    |             |    |   |   |    |             |    |  |                  |   |
| France: Rouen—Devilleles.....                    | P                                  |                                    |                                   |                                   |                |    |    |   |    |             |    |   |   |    |             |    |  |                  |   |
| Hawaii Territory:                                |                                    |                                    |                                   |                                   |                |    |    |   |    |             |    |   |   |    |             |    |  |                  |   |
| Hawaii Island—                                   |                                    |                                    |                                   |                                   |                |    |    |   |    |             |    |   |   |    |             |    |  |                  |   |
| Hamakua—Honokaa.....                             |                                    |                                    |                                   |                                   |                |    |    |   |    |             |    |   |   |    |             |    |  |                  |   |
|  |                                    |                                    |                                   |                                   |                |    |    |   |    |             |    |   |   |    |             |    |  |                  |   |
| Plague-infected rats.....                        |                                    |                                    |                                   |                                   |                |    |    |   |    |             |    |   |   |    |             |    |  |                  |   |
| Paaulo section—Kukalau—Plague-infected rats..... |                                    |                                    |                                   |                                   |                |    |    |   |    |             |    |   |   |    |             |    |  |                  |   |
| Maul Island—                                     | 1                                  |                                    |                                   |                                   |                |    |    |   |    |             |    |   |   |    |             |    |  |                  |   |
| Makawao.....                                     |                                    |                                    |                                   |                                   |                |    |    |   |    |             |    |   |   |    |             |    |  |                  |   |
|  |                                    |                                    |                                   |                                   |                |    |    |   |    |             |    |   |   |    |             |    |  |                  |   |
| Plague-infected rats.....                        |                                    |                                    |                                   |                                   |                |    |    |   |    |             |    |   |   |    |             |    |  |                  |   |
|  |                                    |                                    |                                   |                                   |                |    |    |   |    |             |    |   |   |    |             |    |  |                  |   |

May  
7,  
1932



## CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

## PLAGUE—Continued

[C indicates cases; D, deaths; P, present]

| Place  | Sep-tem-ber, 1931 | Octo-ber, 1931 | No-ven-ber, 1931 | De-cem-ber, 1931 | Jan-uary, 1932 | Feb-ru-ary, 1932 | March, 1932 | Place                       | Sep-tem-ber, 1931 | Octo-ber, 1931 | No-ven-ber, 1931 | De-cem-ber, 1931 | Jan-uary, 1932 | Feb-ru-ary, 1932 | March, 1932 |
|--|-------------------|----------------|------------------|------------------|----------------|------------------|-------------|-----------------------------|-------------------|----------------|------------------|------------------|----------------|------------------|-------------|
| British East Africa (see also table above): Kenya..... | C                 | 64             | 44               | 41               | 17             | 33               | 22          | Peru—Continued.             |                   |                |                  |                  |                |                  |             |
| Province—  |                   |                |                  |                  |                |                  |             | Department—Continued.       |                   |                |                  |                  |                |                  |             |
| Chimborazo.....  | C                 | 2              | 8                |                  | 8              | 13               |             | Lambayeque.....             | C                 | 1              |                  |                  |                |                  |             |
| Loja.....  | C                 | 11             | 2                |                  | 11             |                  |             | Libertad.....               | C                 | 1              |                  |                  | 1              |                  |             |
| Indo-China.....  | C                 | 3              |                  | 9                | 17             | P                | P           | Lima.....                   | C                 | 1              | 9                | 6                | 1              |                  | 1           |
| Madagascar (see also table above):                     | D                 | 1              |                  | 5                | 9              |                  |             | Plague-infected rats.       |                   |                | 4                |                  |                |                  |             |
| Province—  |                   |                |                  |                  |                |                  |             | Lima.....                   | C                 | 1              | 1                |                  | 1              | 1                | 1           |
| Ambatolampy.....                                       | C                 |                |                  |                  |                |                  |             | Plura.....                  | C                 |                | 1                |                  | 1              |                  |             |
| Ambositra.....   | C                 | 8              | 39               | 142              | 23             | 40               |             |                             | C                 | 7              |                  |                  |                |                  |             |
| Antsirabe.....   | C                 | 1              | 5                | 27               | 126            | 38               |             | Senegal:                    |                   |                |                  |                  |                |                  |             |
| Maevatanana.....                                       | C                 | 19             | 27               | 121              | 165            | 80               |             | Bisol <sup>1</sup> .....    | C                 | 13             | 6                | 2                |                |                  |             |
| Marinarivo.....  | C                 | 19             | 17               | 36               | 53             | 43               |             | Dakar <sup>1</sup> .....    | C                 | 8              | 2                |                  |                |                  | 10          |
| Morananga.....   | C                 | 19             | 17               | 51               | 51             | 45               |             | Diorbel <sup>1</sup> .....  | C                 | 43             | 4                |                  |                |                  | 5           |
| Tananarivo.....  | C                 | 4              | 4                | 51               | 51             | 45               |             | Louga <sup>1</sup> .....    | C                 | 31             | 10               |                  |                |                  |             |
| Peru.....  | C                 | 18             | 10               | 14               | 15             | 13               |             | Rufisque <sup>1</sup> ..... | C                 | 13             | 5                |                  |                |                  |             |
| Department—  |                   |                |                  |                  |                |                  |             | Thies <sup>1</sup> .....    | C                 | 10             | 1                |                  |                |                  |             |
| Cuete.....   | C                 | 12             | 16               | 14               | 13             | 12               |             | Yombel <sup>1</sup> .....   | C                 | 4              | 19               |                  |                |                  | 9           |
| Cajamarca.....   | C                 | 11             | 13               | 30               | 13             | 9                |             |                             | C                 | 2              | 10               |                  |                |                  | 5           |
|  | C                 | 63             | 120              | 243              | 23             | 143              |             |                             | C                 | 1              | 12               |                  |                |                  |             |
|  | C                 | 63             | 112              | 231              | 196            | 140              |             |                             | C                 | 12             | 7                |                  | 1              |                  |             |
|  | C                 | 2              | 7                | 21               | 11             | 2                |             |                             | C                 | 8              | 5                |                  | 1              |                  |             |
|  | C                 | 2              | 7                | 9                | 8              | 2                |             |                             | C                 |                | 7                |                  |                |                  |             |
|  | C                 | 14             | 5                | 3                | 3              |                  |             |                             | C                 |                |                  |                  |                |                  |             |
|  | C                 |                |                  |                  |                |                  |             |                             | C                 |                |                  |                  |                |                  |             |
|  | C                 |                |                  |                  |                |                  |             |                             | C                 |                |                  |                  |                |                  |             |

<sup>1</sup> Reports incomplete.

SMALLPOX  
[C indicates cases; D, deaths; P, present]

| Place                                | Week ended —                       |                             |                                       |                |    |    |   |    |             |    |   |   |    |             |    |  |  |                    |  |
|--------------------------------------|------------------------------------|-----------------------------|---------------------------------------|----------------|----|----|---|----|-------------|----|---|---|----|-------------|----|--|--|--------------------|--|
|                                      | Oct.<br>18-<br>Nov.<br>14,<br>1931 | Nov.<br>Dec.<br>12,<br>1931 | Dec.<br>13,<br>10-<br>Feb.<br>6, 1932 | February, 1932 |    |    |   |    | March, 1932 |    |   |   |    | April, 1932 |    |  |  | May<br>17,<br>1932 |  |
|                                      |                                    |                             |                                       | 13             | 20 | 27 | 5 | 12 | 19          | 26 | 2 | 9 | 16 | 23          | 30 |  |  |                    |  |
| Aden.....                            |                                    |                             |                                       |                |    |    |   |    |             |    |   |   |    |             |    |  |  |                    |  |
| Algeria.....                         |                                    |                             |                                       |                |    |    |   |    |             |    |   |   |    |             |    |  |  |                    |  |
| Algiers.....                         |                                    |                             |                                       |                |    |    |   |    |             |    |   |   |    |             |    |  |  |                    |  |
| Constantino Department.....          |                                    |                             |                                       |                |    |    |   |    |             |    |   |   |    |             |    |  |  |                    |  |
| Southern Territories.....            |                                    |                             |                                       |                |    |    |   |    |             |    |   |   |    |             |    |  |  |                    |  |
| Brazil:                              |                                    |                             |                                       |                |    |    |   |    |             |    |   |   |    |             |    |  |  |                    |  |
| Porto Alegre (alastrim).....         |                                    |                             |                                       |                |    |    |   |    |             |    |   |   |    |             |    |  |  |                    |  |
| Rio de Janeiro.....                  |                                    |                             |                                       |                |    |    |   |    |             |    |   |   |    |             |    |  |  |                    |  |
| Santos.....                          |                                    |                             |                                       |                |    |    |   |    |             |    |   |   |    |             |    |  |  |                    |  |
| British East Africa: Tanganyika..... |                                    |                             |                                       |                |    |    |   |    |             |    |   |   |    |             |    |  |  |                    |  |
| British South Africa:                |                                    |                             |                                       |                |    |    |   |    |             |    |   |   |    |             |    |  |  |                    |  |
| Northern Rhodesia.....               |                                    |                             |                                       |                |    |    |   |    |             |    |   |   |    |             |    |  |  |                    |  |
| Southern Rhodesia.....               |                                    |                             |                                       |                |    |    |   |    |             |    |   |   |    |             |    |  |  |                    |  |
| Canada:                              |                                    |                             |                                       |                |    |    |   |    |             |    |   |   |    |             |    |  |  |                    |  |
| Alberta.....                         |                                    |                             |                                       |                |    |    |   |    |             |    |   |   |    |             |    |  |  |                    |  |
| British Columbia.....                |                                    |                             |                                       |                |    |    |   |    |             |    |   |   |    |             |    |  |  |                    |  |
| Manitoba.....                        |                                    |                             |                                       |                |    |    |   |    |             |    |   |   |    |             |    |  |  |                    |  |
| Nova Scotia.....                     |                                    |                             |                                       |                |    |    |   |    |             |    |   |   |    |             |    |  |  |                    |  |
| Ontario.....                         |                                    |                             |                                       |                |    |    |   |    |             |    |   |   |    |             |    |  |  |                    |  |
| North Bay.....                       |                                    |                             |                                       |                |    |    |   |    |             |    |   |   |    |             |    |  |  |                    |  |
| Ottawa.....                          |                                    |                             |                                       |                |    |    |   |    |             |    |   |   |    |             |    |  |  |                    |  |
| Toronto.....                         |                                    |                             |                                       |                |    |    |   |    |             |    |   |   |    |             |    |  |  |                    |  |
| Quebec.....                          |                                    |                             |                                       |                |    |    |   |    |             |    |   |   |    |             |    |  |  |                    |  |
| Saskatchewan.....                    |                                    |                             |                                       |                |    |    |   |    |             |    |   |   |    |             |    |  |  |                    |  |
| Chile:                               |                                    |                             |                                       |                |    |    |   |    |             |    |   |   |    |             |    |  |  |                    |  |
| Santiago.....                        |                                    |                             |                                       |                |    |    |   |    |             |    |   |   |    |             |    |  |  |                    |  |
| Tocopilla.....                       |                                    |                             |                                       |                |    |    |   |    |             |    |   |   |    |             |    |  |  |                    |  |
| China:                               |                                    |                             |                                       |                |    |    |   |    |             |    |   |   |    |             |    |  |  |                    |  |
| Amoy.....                            |                                    |                             |                                       |                |    |    |   |    |             |    |   |   |    |             |    |  |  |                    |  |
| Canton.....                          |                                    |                             |                                       |                |    |    |   |    |             |    |   |   |    |             |    |  |  |                    |  |
| Foochow.....                         |                                    |                             |                                       |                |    |    |   |    |             |    |   |   |    |             |    |  |  |                    |  |

123 cases of smallpox with 8 deaths were reported at Vancouver, British Columbia, from Jan. 1 to Feb. 18, 1932.









## On vessels:

| On vessels:  | Place | Octo-ber, 1931 | No-ven-ber, 1931 | Jan-uary, 1932 | Febru-ary, 1932 | March, 1932 | Place                         | Octo-ber, 1931 | No-ven-ber, 1931 | Jan-uary, 1932 | Febru-ary, 1932 | March, 1932 | April, 1932 |
|--|-------|----------------|------------------|----------------|-----------------|-------------|-------------------------------|----------------|------------------|----------------|-----------------|-------------|-------------|
|  |       |                |                  |                |                 |             |                               |                |                  |                |                 |             |             |
| Brazilian ship Jabotao at New Orleans from Brazil...                 | C     |                |                  |                |                 | 1           |                               |                |                  |                |                 |             |             |
| S. Tacoma at Manila from Shanghai...                                 | C     |                |                  |                |                 | 1           |                               |                |                  |                |                 |             |             |
| S. Kensington Court at Yokohama from Shanghai...                     | C     |                |                  |                |                 | 1           |                               |                |                  |                |                 |             |             |
| S. Wellington Court at Yokohama from Shanghai...                     | C     |                |                  |                |                 | 1           |                               |                |                  |                |                 |             |             |
| S. Victoria City at Brisbane from Shanghai...                        | C     |                |                  |                |                 | 1           |                               |                |                  |                |                 |             |             |
| S. S. Blasco at Mobile from Habana, Cuba, and Hull, England...       | C     |                |                  |                |                 | 1           |                               |                |                  |                |                 |             |             |
| S. Prudenfels at Suez from Calcutta...                               | C     |                |                  |                |                 | 1           |                               |                |                  |                |                 |             |             |
| S. Uvajima Maru at Osaka from Shanghai...                            | C     |                |                  |                |                 | 1           |                               |                |                  |                |                 |             |             |
| S. President Jackson at Yokohama from San Francisco via Honolulu...  | C     |                |                  |                |                 | 1           |                               |                |                  |                |                 |             |             |
| S. S. Hong Kiang at Singapore from Amoy, via Swatow and Hong Kong... | C     |                |                  |                |                 | 1           |                               |                |                  |                |                 |             |             |
| S. Hai Ning and S. S. Soliven at Hong Kong...                        | C     |                |                  |                |                 | 2           |                               |                |                  |                |                 |             |             |
| S. Berkara at Aden from Colombo...                                   | C     |                |                  |                |                 | 2           |                               |                |                  |                |                 |             |             |
| S. S. Treada at Hong Kong from Shanghai and Amoy...                  | C     |                |                  |                |                 | P           |                               |                |                  |                |                 |             |             |
| S. Gaifong at Shanghai...  | C     |                |                  |                |                 | P           |                               |                |                  |                |                 |             |             |
| S. Baluta at Penang from Negapatam...                                | C     |                |                  |                |                 | P           |                               |                |                  |                |                 |             |             |
| S. Macmillan at Suez from Rangoon...                                 | C     |                |                  |                |                 | P           |                               |                |                  |                |                 |             |             |
| S. Talandi at Southampton from New Zealand...                        | C     |                |                  |                |                 |             |                               |                |                  |                |                 |             |             |
| S. Glenbank at Suez from Aden...                                     | C     |                |                  |                |                 |             |                               |                |                  |                |                 |             |             |
| Chosen.....  | C     | 7              | 2                | 1              | 6               | 30          | Mexico (see also table above) | 427            | 419              | 423            |                 |             |             |
| France.....  | D     | 1              |                  |                | 3               | 9           | Morocco                       | 91             | 152              | 279            | 488             | 368         | 308         |
| Guatemala.....   | C     |                | 6                | 1              |                 |             | Turkey (see also table above) |                |                  | 31             | 22              | 1           |             |
|  | D     |                |                  |                |                 |             |                               |                |                  |                |                 |             |             |
| Place  |       |                |                  |                |                 |             |                               |                |                  |                |                 |             |             |
|  |       |                |                  |                |                 |             |                               |                |                  |                |                 |             |             |
|  |       |                |                  |                |                 |             |                               |                |                  |                |                 |             |             |
|  |       |                |                  |                |                 |             |                               |                |                  |                |                 |             |             |
|  |       |                |                  |                |                 |             |                               |                |                  |                |                 |             |             |
| Gold Coast.....  | C     |                |                  |                |                 |             |                               |                |                  |                |                 |             |             |
| Indo-China (see also table above).....                               | C     |                |                  |                |                 |             |                               |                |                  |                |                 |             |             |
| Ivory Coast.....   | C     |                |                  |                |                 |             |                               |                |                  |                |                 |             |             |
| Syria: Beirut.....   | C     |                |                  |                |                 |             |                               |                |                  |                |                 |             |             |

\* Imported case.

\* A suspected case.

**CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued**

## TYPHUS FEVER

[C indicates cases; D, deaths; P, present]

[illegible]

[illegible]

| Place               | No-<br>vem-<br>ber, 1931 | De-<br>cem-<br>ber, 1931 | Janu-<br>ary, 1932 | Feb-<br>ruary, 1932 | March, 1932 | April, 1932 | Place                   | No-<br>vem-<br>ber, 1931 | De-<br>cem-<br>ber, 1931 | Janu-<br>ary, 1932 | Feb-<br>ruary, 1932 | March, 1932 | April, 1932 |
|---------------------|--------------------------|--------------------------|--------------------|---------------------|-------------|-------------|-------------------------|--------------------------|--------------------------|--------------------|---------------------|-------------|-------------|
| Chosen: Seoul.....  | 4                        | —                        | —                  | —                   | 5           | 4           | Lithuania.....          | 9                        | 20                       | 21                 | 10                  | 32          | 17          |
| .....               | 1                        | —                        | —                  | —                   | 1           | —           | .....                   | —                        | —                        | 3                  | 3                   | 3           | 2           |
| Czechoslovakia..... | —                        | 10                       | 1                  | —                   | —           | —           | Turkey.....             | 14                       | 21                       | 13                 | 22                  | 8           | —           |
| .....               | 3                        | 3                        | —                  | —                   | —           | —           | .....                   | —                        | 2                        | 2                  | 1                   | —           | —           |
| Greece.....         | 4                        | 6                        | 4                  | —                   | 4           | —           | Venezuela: Caracas..... | —                        | —                        | —                  | —                   | —           | —           |
| .....               | —                        | 1                        | —                  | —                   | —           | —           | Yugoslavia.....         | 2                        | 14                       | 11                 | 26                  | 6           | 29          |
| Latvia.....         | —                        | 12                       | —                  | —                   | —           | —           | .....                   | 1                        | 1                        | —                  | 2                   | 1           | —           |

<sup>1</sup> Typhus fever was reported in Peru from May to November, 1931, 153 new cases being reported during the months of October and November. The disease did not spread to the coastal regions.

## CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

## YELLOW FEVER

[C indicates cases; D, deaths; F, present]

| Place  | Oct.<br>18-<br>Nov.<br>14,<br>1931 | Nov.<br>15-<br>Dec.<br>12,<br>1931 | Dec.<br>13,<br>1931-<br>Feb.<br>6, 1932 | Week ended—    |    |    |             |    |    |    |             |   |    |
|--|------------------------------------|------------------------------------|---|----------------|----|----|-------------|----|----|----|-------------|---|----|
|  |                                    |                                    |   | February, 1932 |    |    | March, 1932 |    |    |    | April, 1932 |   |    |
|  |                                    |                                    |   | 13             | 20 | 27 | 5           | 12 | 19 | 26 | 2           | 9 | 16 |
| Brazil:  |                                    |                                    |   |                |    |    |             |    |    |    |             |   |    |
| Alagoas State—                                   |                                    |                                    |   |                |    |    |             |    |    |    |             |   |    |
| Maceio.....                                      | D                                  | 1                                  |   |                |    |    |             |    |    |    |             |   |    |
| Utinga.....                                      | D                                  | 3                                  |   |                |    |    |             |    |    |    |             |   |    |
| Bahia State.....                                 | D                                  | 2                                  |   |                |    |    |             |    |    |    |             |   |    |
| Sobral.....                                      | D                                  | 1                                  | 2                                       |                |    |    |             |    |    |    |             |   |    |
| Ceara State.....                                 | D                                  | 1                                  |   |                |    |    |             |    |    |    |             |   |    |
| Espirito Santo State <sup>1</sup> .....          | D                                  |                                    |   |                |    |    |             |    |    |    |             |   |    |
| Santa Teresa (about 44 miles from Victoria)..... | D                                  |                                    |   |                |    |    |             |    |    |    |             |   |    |
| Pernambuco State—Pau d'Alho.....                 | D                                  | 1                                  |   |                |    |    | 1           |    |    |    |             |   |    |
| Dahomey: Porto Novo.....                         | D                                  | 1                                  |   |                |    |    |             |    |    |    |             |   |    |
| Gold Coast:                                      |                                    |                                    |   |                |    |    |             |    |    |    |             |   |    |
| Avudav.....                                      | C                                  |                                    |   |                |    |    |             |    |    |    |             |   |    |
| Cape Coast.....                                  | C                                  |                                    |   |                |    |    |             |    |    |    |             |   |    |
| Dagomba District.....                            | C                                  | 1                                  |   |                |    |    |             | P  |    |    |             |   |    |
| Salaga.....                                      | C                                  | 1                                  |   |                |    |    |             |    |    |    |             |   |    |
| Tamale.....                                      | C                                  | 1                                  |   |                |    |    |             |    |    |    |             |   |    |
| Yapel.....                                       | C                                  | 3                                  |   |                |    |    |             |    |    |    |             |   |    |
| Ivory Coast: Téhini.....                         | C                                  |                                    |   |                |    |    |             |    |    |    |             |   |    |
| Nigeria.....                                     | C                                  | 2                                  |   |                |    |    |             |    |    |    |             |   |    |
| Sudan (French): Macina—Kayo Circle.....          | C                                  | 1                                  |   |                |    |    |             |    |    |    |             |   |    |
| Togo (French): Atakpame—Anié Circle.....         | C                                  | 2                                  |   |                |    |    |             |    |    |    |             |   |    |
| Upper Volta: Dedougou.....                       | C                                  | 1                                  |   |                |    |    |             |    |    |    |             |   |    |
|  | D                                  | 2                                  |   |                |    |    |             |    |    |    |             |   |    |

<sup>1</sup> During the 3 weeks ended Apr. 30, 1932, a number of cases of suspected yellow fever were reported in the interior of the State.

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